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THE CULTURE OF THE NATIONS

BY

MARK JEFFERSON

On the topographic map that the Geologic Survey is making of the United States, water is shown always in blue, in sea, lake, swamp or river; the height and molding of the land in brown, while black is reserved for a whole class of things called by the surveyor "culture." He means things made by men, and the definition is not without interest to students whose thought of culture is less material. In what degree do the various nations of the earth take part in the making of these things? Of course, the great manufacturing countries are well known, but even the surveyor means more by culture than the product of the factories. For there are houses, bridges, roads, railroads, villages, towns, cities and boundaries, all in black on his maps. Equally within his definition of culture, though he can hardly map them, are books, pictures, statues, music, laws and institutions. These things must not be assumed to abound most in manufacturing countries.

Are there any products of culture that are typical of what culture fairly stands for and at the same time so well ascertained and reported that we may use them as a basis of a comparison of national culture? The twofold condition is a difficulty. Typical items of culture are abundant enough—the production of good literature and music and works of art, the care of the unfortunate and dependent, the making of great discoveries and inventions; but it does not appear to be possible to put impartial and relative values on what one and another countries have accomplished in these lines. On

looking over the field there seem to be four items that combine considerable cultural significance with statistical availability. They are: the education of the young, the extent of international commerce, the development of railways, the use of the mails.

Where a large part of the young are at school, where the totals of commerce are large in proportion to the number of the people, where ample railways promote the free and rapid intermingling of citizens and where the postman comes often to the door, there culture is likely to be found in all its aspects. Fine manners and the arts have prospered where commerce was but moderate, where schooling was limited and where the railway was not, as in parts of the East to-day and anciently almost everywhere (where culture was); but the culture of the Orient is not our ideal, and in the past the seats of culture were always associated with trade and the routes of trade, always they were the site of schools of some sort.

The school must always stand for culture. In the estimates that follow it is given twofold weight among the data. The articles that the factory turns out may not be of the highest artistic value, yet the factory is an agency in a general advance toward better things, more comfort, more attention to fitness and beauty. The railroad is unquestionably a civilizing agency of the highest sort, broadening ideas and removing prejudices by bringing people together. The mails hold distant people together to such an extent that the force is largely gone from the old adage, "Out of sight, out of mind." Yet be it confessed, the value of these particular items, their special recommendation as standards of civilization lies in the fact that we have fairly accurate knowledge of them for the greater part of the earth's surface. They justify themselves as soon as we apply them by a singular harmony of evidence. Since the sort of culture we are studying is European or of European origin, let us see the facts for that continent. Here they are set out in diagrammatic form: index numbers have been calculated for schooling, commerce, railway and mail developments, and the values shown by the lengths of the black lines arranged with the longest above. The most striking thing about that diagram is that Turkey is always at the bottom and Russia as near the bottom as that allows. The two are rivals here as in other things. Servia is only a little less persistent in the third lowest place and Portugal keeps pretty well with them. Above in the list is more variation from column to column, but the groups are constant. See how England, Netherlands, Belgium and Switzerland cling to the head of the list between them, with many changes of individual place. See how France, the Scandinavian

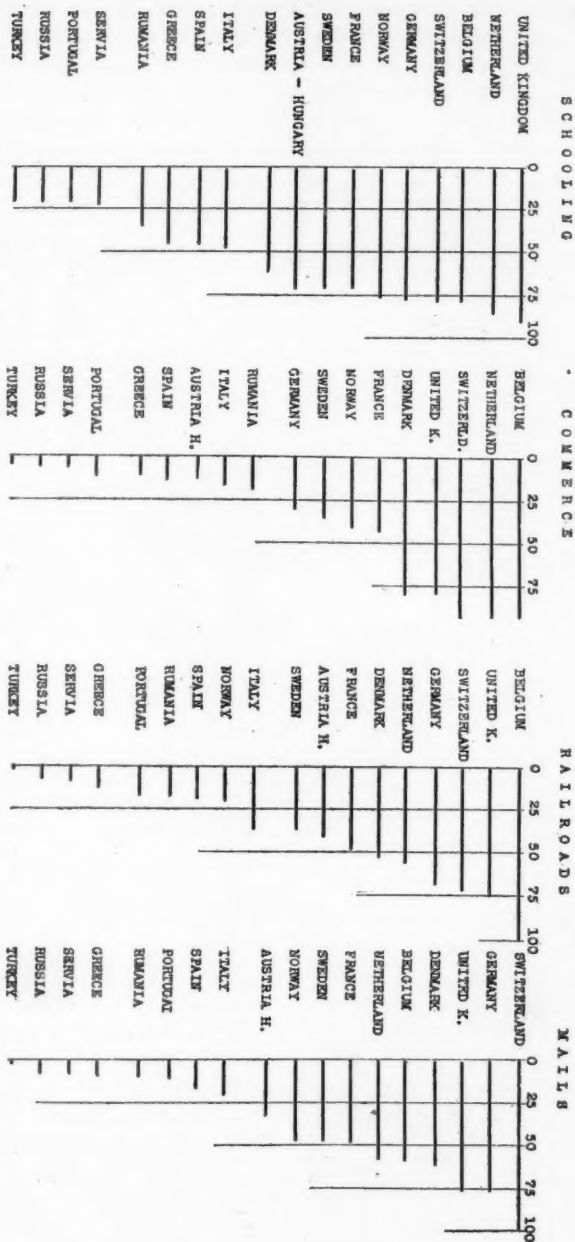


FIG. 1.—Comparative diagram of indices of European countries for schooling, commerce, railroads and mails. The countries fall into three groups and the members of each group are neighbors.

countries and Austria-Hungary affect a rank just below; and most of all, see how distinct is the length of line that corresponds to the group Italy, Spain, Greece and Rumania. Average values somewhere between 45 and 100 seem to characterize a group of nations that we may call Teutonic, values between 21 and 45 belong to purely Mediterranean lands, while the lowest group must be called Levantine. The association of these groups of nations in contiguity of values is as striking as their persistent value of index number. This will come out better if we put the data on a map of culture indices made by averaging the four values given with double weight on the schools.

Since these are data that concern people and not empty territories, the shades that are to indicate grades of culture are put only on the inhabited parts of the earth, and that is here assumed to mean the parts that have more than two and a half people to a square mile. About a twentieth part of the Canadian

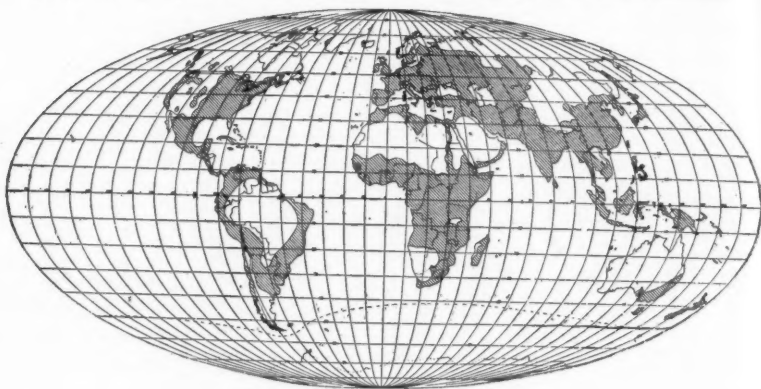


FIG. 2—THE INHABITED WORLD, 1905.

Only the lined areas have as many as $2\frac{1}{2}$ people per square mile (1 per square kilometer).

territories thus becomes inhabited Canada. Similarly, we call inhabited about a quarter of Norway's 124,000 square miles and 180,000 of Chile's 308,000 square miles. Thus the blank spaces on the culture map (Fig. 3) indicate a lack of culture inasmuch as there are not people there to acquire it. To put it in another way, so thin a population as that means always that the people are fishing and hunting barbarians, save for a few groups of miners, which are small and not representative of the best things in modern life. Here we see our Teutonic people of the European diagram forming the largest group of people of the highest culture, the black area about

the Baltic and North seas. There are no less than 226,000,000 of them. As this is a world map, we are at once interested to see almost half as many more people of the same culture—a group dwelling across the Atlantic in eastern North America; Newfoundland, Canada and the United States. Another little group of 5,000,000 is found in Australia and New Zealand.

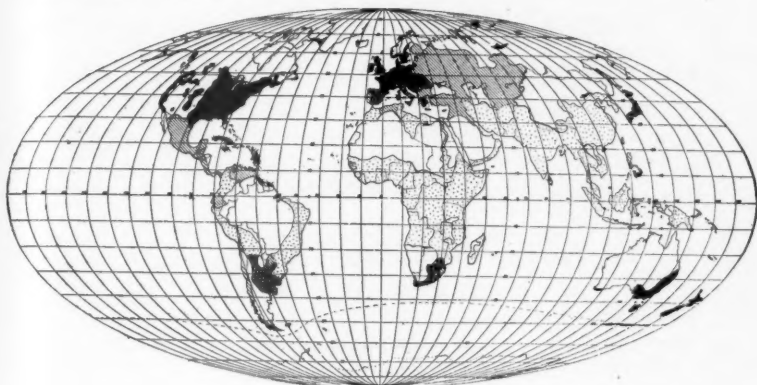


FIG. 3.—CULTURE.

classes.	symbols.	indices.
Teutonic.....	black	over 45
Mediterranean.....	diamonds	over 21
Levantine.....	lines	over 8
Oriental.....	dots	under 8

These indices are the sums of indices for schooling (taken twice), railroads, commerce, and mails divided by 5. The diamonds also appear in Cuba, the British West Indies and British and French Guiana.

All of the groups out of Europe are of English speech and descent. We are justified, therefore, in concluding that Western civilization culminates among Teutonic peoples the world over, and we shall call this grade of culture Teutonic. It includes all nations with culture index over 45.*

COUNTRIES OF TEUTONIC CULTURE

	INDEX.	MILLION PEOPLE.		INDEX.	MILLION PEOPLE.
1. Switzerland.....	85	4	9. United States.....	67	92
2. Belgium.....	84	8	10. Denmark..	65	3
3. United Kingdom.....	83	45	11. Newfoundland.....	50	—
4. Netherlands.....	77	6	12. France.....	56	39
5. Australia.....	76	4	13. Sweden.....	52	5
6. New Zealand.....	70	1	14. Norway.....	51	2
7. Canada.....	68	6	15. Austria-Hungary.....	45	49
8. German Empire.....	68	65			

* The derivation of the various indices are explained in the following pages.

In all 329,000,000, about a fifth of the earth's inhabitants. Two-thirds of them are in Europe, centering especially on the great lowlands of the northwest, between the Scandinavian upland and the Mediterranean ridges. The four last countries on the list, the lowest of the group by the indices, occupy a peripheral position about this plain. France, which is not Teutonic, and Austria-Hungary, which is only Teutonic in part, occupy a position which is geographically as well as numerically intermediate between this group of nations and the next one.

The second group of lands, the Mediterranean ones of Fig. 1 are designated by the black diamonds on the map and are seen here in their proper geographic place. Rumania, it must be remembered, is of Latin speech though separated from its relatives by the lands still held by Turkish invaders.

COUNTRIES OF MEDITERRANEAN CULTURE

INDEX. MILLIONS.		INDEX. MILLIONS.	
1. Argentine Republic..	48 6	9. Spain.....	28 20
2. Cape Colony.....	41 2	10. Transvaal.....	28 1
3. French Guiana.....	38 —	11. Uruguay.....	28 1
4. Cuba.....	36 2	12. Greece.....	24 3
5. Italy.....	27 34	13. Natal.....	23 1
6. British Guiana.....	28 0.3	14. Rumania.....	23 7
7. British West Indies..	28 1.5	15. Orange River.....	22 0.2
8. Japan.....	28 48		

In all 127,000,000, a little more than half of them living in the European type area.

Italy leads this culture group as distinctly to-day as in Roman times. Spain, the second in rank, is of especial interest for its American offshoots in this same grade of culture, in the Argentine Republic and Cuba. In the British West Indies as in South Africa are seen the effects of Teutonic uplift on African peoples, at home and transplanted. Japan is a land of high and ancient Oriental culture that has in forty years made a great additional achievement in the civilization of the West, animated by a patriotic desire to win a place among the nations of the earth that her former culture had failed to secure her. Western learning, international commerce and railways are all aside from the currents of old-time Oriental life.

The East had wrought out a civilization for itself that prized other things and despised these. It is unfair to judge the East by our standards, and when we rate it low we should remember that we are practically condemning it for failure to accomplish what it

has only recently come to want. Yet Japan, the only eastern country to realize the value of western things, has made astonishing progress in the short period of her attempt. England won the freedom of the seas from the Spanish Armada in 1588, and it is only after three and a half centuries that she dwells in every continent, is at home on all the seas and is the foremost example of the culture we are studying. Japan's awakening by Perry to admit the world to commerce and acquaintance with her people came little more than fifty years ago, yet she is already a great military and naval power, has made wonderful beginnings of education and industry with merchant shipping on the oceans only inferior in total tonnage to the United Kingdom, United States, Germany, Norway and France. If her place in western culture is the moderate Mediterranean stage, her rise to that place has no parallel in the history of nations.

COUNTRIES OF LEVANTINE CULTURE

INDEX. MILLIONS.		INDEX. MILLIONS.	
1. Chile	20 4	9. Mexico	14 15
2. Ceylon	18 4	10. Servia	13 3
3. Egypt	17 10	11. Russia	11 147
4. Portugal	16 6	12. Paraguay	12 1
5. Dutch Guiana	16 —	13. Central America	10 5
6. Ecuador	15 1	14. Venezuela	10 3
7. Philippines	15 8	15. Turkey	9 30
8. Algeria	14 5		

In all 242,000,000, three-quarters of them in the Levant. The culture numbers of these countries range from nine to twenty-one.

The lowest grade of European culture characterizes 180,000,000 people in the great continuous area at the east end of the Mediterranean, from which we call it Levantine. It occurs also in Portugal, Algeria and Egypt. In America it is represented by 29,000,000 in Chile, Mexico, Ecuador, Central America, Paraguay and Venezuela, where Mediterranean Spain has by an infusion of her blood lifted native American races far above most of the countries of the Levant, though not to Mediterranean grade.

In Africa we see Teutonic influences on the native populations in Natal, much as in Ceylon and the Philippine Islands. The effects in this case, however, are by schooling and governmental control in a paternal way rather than by intermarriage.

All the extra-Europeans of this culture grade have higher numbers than European representatives. The designation Levantine is sound, however, as the origin of the culture studies is European. On the map the Levantine area is ruled with parallel lines.

Between the three culture groups of Europe, but including people outside that continent, there are nearly half the people in the world.

The remaining inhabited regions of the globe are of the lowest grades of culture, with index numbers under 9 in a possible hundred. It includes barbarous Africa between the tropics and some of the tropical lands of America, but eighty-six per cent. of its people dwell in Asia and from them we call the grade Oriental.

COUNTRIES OF ORIENTAL CULTURE

INDEX. MILLIONS.		INDEX. MILLIONS.	
1. Brazil.....	8 20	13. German Africa....	12
2. Colombia.....	8 4	14. Persia.....	8
3. Tunis.....	8 2	15. Morocco.....	4
4. Madagascar.....	7 3	16. China.....	407
5. Peru.....	6 5	17. Minor French Africa	24
6. Bolivia.....	5 2	18. Italian Africa.....	1
7. India.....	5 300	19. Portuguese Africa..	8
8. Siam.....	3 7	20. Abyssinia.....	10
9. Dutch East Indies...	3 38	21. Afghanistan.....	5
10. Minor British Africa..	1 26	22. Congo Free State..	30
11. Korea.....	1 12	23. Anglo Egyptian Sudan.....	2
12. French Indo China...	1 18	24. Liberia.....	2

All less than 1.

In all, 950,000,000, of whom 795,000,000 are in Asia. Europe has none of this grade of culture nor has North America nor Australia. In South America are Colombia, Brazil, Peru and Bolivia with culture indices well up toward the Levantine values and far excelling the Orient proper; practically all of Africa except the extreme north and south, and in Asia, India, East Indies, Siam, Korea, Indo-China, Persia, China and Afghanistan. China reminds us again of what was said in the case of Japan. She possesses already a high degree of a culture of her own, as have some other of the countries of Asia. Only from the point of view of western civilization are they of low culture. In the conquest of natural forces and their application to the service of man the best of them have accomplished little. The Chinese are making beginnings, but statistical data are not yet at hand to show how much. Their international commerce little exceeds in gross amount that of the handful of Argentines. It is but a dollar *per capita*. Japan's is \$9 and Great Britain's \$109.

It is a matter of extreme delicacy to assign ranks to nations. This was made evident a few years ago when it was proposed to apportion votes at the Hague tribunal according to the status of the

several countries. There is much of course in the rating just proposed that is acceptable to the run of intelligent men. Afghanistan below Russia and Russia below England is probably a reasonable ranking in any eyes but those of a Russian or an Afghan. No place but the first will quite satisfy a man for his own country. But just what is the basis on which these values have been assigned? Norway will serve as an example.

It is near the foot of the group of countries of Europe with Teutonic culture, having the culture-index 51. Compare with Belgium, high among them with 84 for index. These numbers are made from the partial index numbers for schooling, commerce, railways and mails, giving double weight to schooling.

	NORWAY	BELGIUM
schooling	75	80
	75	80
commerce	40	100
railways	20	100
mails	47	59
	<hr/>	<hr/>
	257	419
	51	84

The numbers are added and the sum divided by five. It appears at once that Norway is somewhat behind Belgium in schools and mails, much behind in commerce and very far behind in railways. The last defect is easily explained. It is simple to lay sleepers and rails in a fairly level land like Belgium, immensely difficult in rugged Norway. Norway too has but 2,500,000 of people in a land eleven times as big as Belgium, which has 8,000,000. This limits the possibilities of traffic and lengthens the distances over which goods have to be hauled. Lastly, a highly developed system of communication, by small steamers in the fiords and coast waters and the inexpensive "posting" on the admirable roads, puts in the hands of the Norwegian a reasonable equivalent for the missing railroads. It might not seem amiss to modify Norway's unfavorable railway index from considerations like this. It has, however, been deemed wiser to keep the bare figures yielded by official statistics and add explanations when they suggest themselves. Norse culture is thereby depressed, but not out of the Teutonic class. It is evident that its low place is due rather to the difficulties of the land than to the disposition of the people. In commerce Norway is low, for it lies to one side of the

currents of trade and yields few products for exchange. Belgium has access through Antwerp to the world beyond the seas. On another side all Europe is open to her.

The partial index numbers have been derived as follows: Norway had in 1903 about 2,330,000 inhabitants and 350,000 children enrolled at elementary schools. Only elementary schools were examined since they alone are open to the masses of the people about whom we wish to ascertain the facts. Enrolment alone is considered, since it is the only thing that can be learned for the greater part of the world. In fact, *attendance* at school can only be ascertained by the exercise of an amount of care and attention that in countries of low culture is not likely to be available. Enrolment requires only the writing down of the names of those who present themselves and their counting. Something of this sort is now done in most parts of the world.

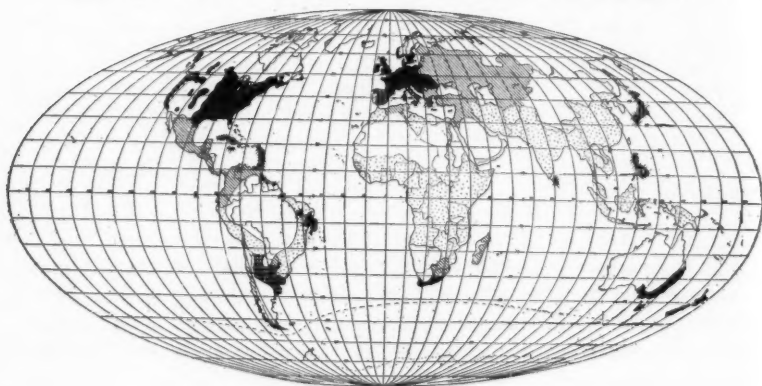


FIG 4—SCHOOLING.

indices.	symbols.
over 58.5.....	black
over 30.8.....	diamonds
over 12.3.....	lines
under 12.3.....	dots

These indices are the percentage of population enrolled at elementary schools, multiplied by five.

From the data given above, taken from the Statesman's Yearbook, it appears that fifteen per cent. of the Norwegian people are enrolled at elementary schools. For Belgium this percentage is sixteen. As twenty is about the highest percentage to occur anywhere, an index number is made on the basis of a hundred for maximum by multiplying each value by five, giving 75 for Norway and 80 for Belgium. It is not pretended that the two numbers represent the precise relation of Norwegian to Belgian education. So many things enter into

account that it is perfectly possible that Norway might have better schools than Belgium and still have a smaller index, for our index numbers pay no heed to attendance, months of schooling, hours per day, preparation of teachers and their aims, which are of essential importance. But these things cannot be learned for any great number of countries and while small differences in an educational index such as is here described may have no significance, large ones do. In the main, where more children are enrolled, more is being done for their training than where they are left at home. American education must not be asserted to be superior to German because the index is 95 in the United States to 80 in Germany. It may be safely said to be superior to that of Spain, where the index is but 45, and the Spanish better than the Portuguese with an index of 20.

To determine the commercial index general imports and exports are used since it was impracticable to obtain the values of special

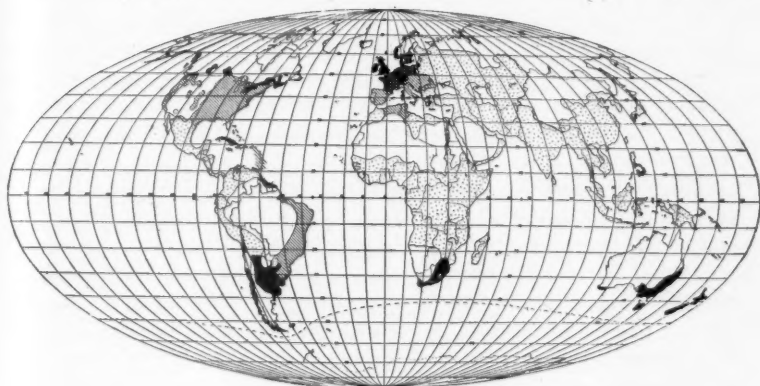


FIG 5—COMMERCE.

indices.	symbols.
over 58.5.....	black
over 30.8.....	diamond
over 12.3.....	lines
under 12.3.....	dots

These indices are the total general commerce per capita multiplied by five.

commerce—exports of home produce and imports for home consumption. The sum of total exports and imports is divided by the population for the same year to get a *per capita* value. The 8,000,000 Belgians have a total commerce of \$1,849,000,000; the 2,500,000 Norwegians have a total commerce of \$143,000,000; *per capita* values for Norway are \$60, for Belgium \$264. As \$150 is exceeded by only three countries we put it for a hundred and multiply all

values by two-thirds, making the Norwegian index 40, the Belgian 100. For five countries, including some of the leading culture-nations of the world, only special commerce was ascertainable, so the culture indices may be unduly depressed by a low commercial index. There is little doubt that Germany is somewhat disparaged by our figures. On the other hand, the Netherlands is one of these countries that report special commerce only, yet their *per capita* amount reaches the astonishing sum of \$329. Netherlands being a free-trading country, however, only estimates of the commerce are given. It can hardly be doubted that this is not truly special commerce at all but much of it made up of goods in transit. For the position of the Netherlands at the mouth of the Rhine between Europe and the ocean is very suitable for transit business. There is a certain amount of what we may call "reflection" too, in the commercial data. Semi-barbarous dependencies of a great commercial nation are likely to do a good deal of business. Properly the commerce of British Guiana is British. It is therefore high—index 37—but such cases are easily recognized as they occur. The treatment of the British colonies as separate countries allows interesting comparisons. Thus the commercial indices of Australia, Cape Colony and India are 87, 43 and 2 respectively.

The United States is distressingly low. It is evident that we take very small part in the world's commerce, for our commercial index is 23. But thanks in part to the high industrial development of our country, in part to the diversity of its products, we have an internal commerce of the greatest magnitude. This is clearly shown by considering our manufactures. More than thirteen years ago the value of the product was \$136 *per capita* of our population (Mulhall). No other country had so great a value. The United Kingdom had \$109, Germany \$66. Since our exports and imports together were only \$35 *per capita*, it is evident that our manufactures were not exported. Over \$100 *per capita* of our manufactures must have been bought in the United States by our own citizens, and as it was also sold it raises our total internal commerce to over \$200. This makes no account of raw products bought and sold within our country, and intentionally, for there is no doubt that it is large for our population, if small for our acreage. In 1908 the United States, less than 90,000,000 people, produced over four billion bushels of all cereals, including rice. Europe, with 470,000,000 people, produced barely seven billion bushels; less than double the grain among five times the people. There are no usable data for total commerce of the nations, both internal and external, but it is evident from these con-

siderations that American business is largely done within our own land. Anyone familiar with the spending habits of our people as compared with Europeans, will not hesitate at this conclusion.

On the other hand, the Argentine Republic has a commercial index of 60, corresponding to a total of \$90 *per capita*. But the manufactures of the Argentines are of very modest amount and the spending, while lavish by a small class of the citizens, is very restricted on the part of the great majority. The Republic exports breadstuffs and meat and imports the products of European industry. Her foreign commerce is well nigh her total commerce. She makes an unduly good showing in our figures therefore, but the United States cannot be said to be hurt by the comparison since, when all is said, she is in the first culture group. The same facts that are evidence that the commercial index does not fairly represent her, are effective in raising her other indices. This justifies us in regarding our indices as truly significant. We stand well in the culture scale in spite of our little international commerce; the Argentines have the avenues of culture opened to them by their much buying and selling abroad.

Of railways, Belgium has 2,836 miles, Norway has 1,584. Shall we compare these mileages on an areal or a population basis? Each seems to have some advantages. More men have more resources and produce more things. They need more means of transportation therefore and can better afford them. More miles of distance, on the other hand, need more rails to overcome them as obstacles to commerce. After using both methods for some years, it has become apparent that railways serve us by overcoming space. There would be little need of railways on one square mile, however dense its population might be. Be the people few or many, the utility of a railway would not exist. A country might be well served with twenty-five miles of railway per 100 square miles of territory, like Belgium. Would it need more railroads if we doubled the population? It might need more trains per day, more speed, more tracks—Railway mileage does not count double tracks extra—but it is not apparent what advantage more lines would have when once we have enough to get pretty near every point of the territory. Suppose, on the other hand, our territory were doubled, could we get along with the railway mileage that served us before? It is plain that it must be fairly doubled to maintain the service. Railways contend with distance and we give the datum therefore in miles per hundred square miles of territory.

But when a country has broad expanses of uninhabited land, as

have Russia, Canada or Australia, only the inhabited portions are considered. The method used has been very rough. A map has been made showing the density of population of the world. The area with fewer than two and a half people per square mile (one per square kilometer) has been left white. This has been estimated and subtracted from the area of the respective countries. Any detailed railway map will justify this procedure. That of the United States, for instance, or Canada. It is true that railways cross the uninhabited spaces of these two countries, but they are few and are limited to single unbranching tracks. Australia has not yet been able to stretch her lines across the desert from Port Darwin to Adelaide, and the difference between the railway nets of eastern and western United States is very great. Evident as the thing is, political coloring of

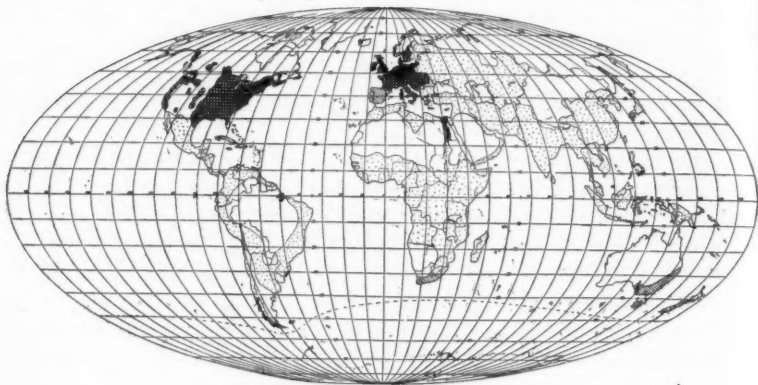


FIG 6—RAILROADS.

<i>indices.</i>	<i>symbols.</i>
over 58.5.....	black
over 30.8.....	diamonds
over 12.3.....	lines
under 12.3.....	dots

These indices are the number of miles of railroad per 100 square miles of inhabited area, multiplied by 4.

maps has obscured the truism that a country is only where its people are. Canada is really only a portion of the valley of the St. Lawrence and its people. The lands west of Hudson Bay are Canadian territory, rather than Canada. In practical life that is what everyone means when he says Canada. It is only in schools that the extent to which the land is in use is ignored, and the whole territory spoken of as if all of it were the home of the nation. Now Norway is the land of empty spaces. The government reports that only four per cent. of the area is fit for cultivation. There are vast expanses of rock

and snow. It has been estimated very conservatively for our purpose that three-fourths of the kingdom was unsettled, reducing its area to 31,000 square miles. There are five miles of railway for every hundred square miles. For Belgium, which is all settled and densely, the mileage is twenty-five, the highest in the world. To obtain an index number, similar to those for education and commerce, this maximum has been put equal to 100 and all railway numbers, obtained by dividing the total mileage by the hundreds of inhabited square miles, have been multiplied by four to bring them to this basis, giving 100 for Belgium and 20 for Norway.

In Norway 67 pieces of mail matter are delivered annually for each head of the population, in Belgium 85. As the greatest number in any country in the world is 143 in Switzerland, we put that for

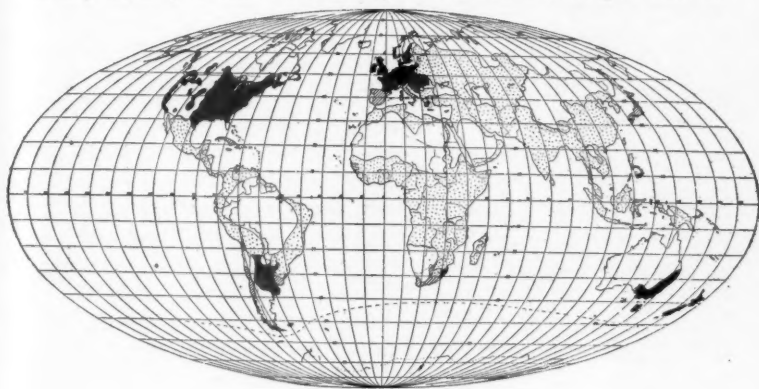


FIG 7—MAILS.

<i>indices.</i>	<i>symbols.</i>
over 58.5.....	black
over 30.8.....	diamonds
over 12.3.....	lines
under 12.3.....	dots

These indices are the number of pieces of mail delivered annually per capita, multiplied by 0.7.

100 by multiplying all values by seven-tenths. Thus the mail indices become for Norway 47 and for Belgium 58.

It was interesting to the writer to come on the mail data after the culture indices had been once computed on the basis of the other three items only. But the special interest was that inclusion of the mails as basal data for culture caused no material change in the results. Indices were of course changed a little, but only one, Natal, suffered change enough to move out of its culture class. This fact can only be regarded as a confirmation of the reliability of the method used for the sort of conclusion here drawn.

Here are all the indices for the 69 countries studied:

	CULTURE.	SCHOOLS.	COMMERCE.	R.R.	MAILS.
1 Switzerland.....	85	80	95	72	100
2 Belgium.....	84	80	100	100	58
3 United Kingdom.....	83	90	80	76	77
4 Netherlands.....	77	85	100	56	58
5 Australia.....	75	100	87	18	68
6 New Zealand.....	70	85	100	10	68
7 Canada.....	68	100	62	40	37
8 German Empire.....	68	80	30	68	81
9 United States.....	67	95	23	44	80
10 Denmark.....	65	65	80	52	61
11 Newfoundland.....	57	75	67	64	4
12 France.....	56	70	42	48	49
13 Sweden.....	52	70	35	36	49
14 Norway.....	51	75	40	20	47
15 Austria Hungary.....	45	70	13	40	33
16 Argentine Republic.....	43	50	60	9	45
17 Cape Colony.....	41	65	43	14	19
18 French Guiana.....	38	40	80	0	31
19 Cuba.....	36	40	76	13	13
20 Italy.....	33	47	16	36	20
21 British Guiana.....	28	50	37	0.4	4
22 British West Indies.....	28	50	30	9	0.3
23 Japan.....	28	55	6	12	15
24 Spain.....	28	45	13	19	16
25 Transvaal.....	28	15	95	6	10
26 Uruguay.....	28	25	40	7	22
27 Greece.....	24	45	11	12	8
28 Natal.....	23	15	38	9	36
29 Rumania.....	23	35	19	16	10
30 Orange River.....	22	20	60	6	2
31 Chile.....	20	25	31	6	15
32 Ceylon.....	18	35	11	8	3
33 Egypt.....	17	10	21	44	3
34 Portugal.....	16	20	11	16	11
35 Dutch Guiana.....	16	15	35	0	13
36 Ecuador.....	15	30	10	0	5
37 Philippines.....	15	35	5	0.4	0.7
38 Algeria.....	14	20	17	4	8
39 Mexico.....	14	20	11	9	9
40 Servia.....	13	22	6	8	8
41 Russian Empire.....	12	20	4	7	8
42 Paraguay.....	11	20	11	1	2
43 Central America.....	10	20	8	4	0.4
44 Venezuela.....	10	20	6	1	2
45 Turkey.....	9	20	5	1	1
46 Colombia.....	8	18	3	0.4	0.7
47 Brazil.....	8	10	13	5	3
48 Tunis.....	8	5	17	4	10
49 Madagascar.....	7	15	3	0.2	0.7
50 Peru.....	6	10	7	1	2
51 Bolivia.....	5	10	3	0.2	0.6
52 India.....	5	7	2	6	1
53 Siam.....	3	4.5	5	0.4	0.2
54 Dutch East Indies.....	3	3	4	2	0.6
55 Minor British Africa.....	2.2	2.5	3	0.8	—
56 Korea.....	1	0	1.3	4	0.1

	CULTURE.	SCHOOLS.	COMMERCE.	R.R.	MAIL.
57 French Indo China.....	1	0	3	1	0.4
58 German Africa.....	1	1.5	1	0.2	—
59 Persia.....	0.6	0	3	0	0.2
60 Morocco.....	0.6	0	3	0	—
61 China.....	0.6	0	0.7	2	0.1
62 Minor French Africa.....	0.4	0.5	1.3	0.1	—
63 Italian Africa.....	0.4	0	2	0.1	—
64 Portuguese Africa.....	0.4	0	2	0.1	—
65 Abyssinia.....	0.1	0	0.7	0	—
66 Congo State.....	0.1	0	0.3	0.1	—
67 Afghanistan.....	0.1	0	0.7	0	—
68 Anglo-Egyptian Sudan.....	0.1	0.2	0	0.1	—
69 Liberia.....	0.1	0	0.3	0	—

If anyone should find such a page of figures annoying rather than convincing, from a feeling of distrust of figures as capable of supporting any conclusion desired, let him remember that there are some sorts of figures that all of us have to admit to our confidence in modern life, such as those of the assessor or the bookkeeper at our bank. We cannot successfully refuse recognition to them. We know that when we set ourselves to it they can be verified. We can establish their truth or falsity. Now we have by no means so lively an interest in the culture status of the nations as in our taxes or our balance at the bank, but we have an opinion about that status which we use in our habitual thought of fellow nationalities, and it is only fair play and justice to take some reasonable effort to see that our opinion is well founded. In general, unless we have traveled very widely and actually lived in different lands long enough to appreciate their good points as well as the obvious differences from our ways, such opinions are not at all well founded and the present argument pleads for the substitution of solid facts as a basis.

The figures here given are entirely verifiable. Back of the general table at p. 264 is the Statesman's Yearbook, and, for the mail data, Hickmann's geographical statistical Pocket Atlas (Freytag, Leipzig). If a sample country or two from the list be tested the solidity of the facts here adduced will be established.

A scrutiny of the list of culture and partial indices reveals the fact that for any country disagreements of a single index with its fellows, may usually be understood. In the first class the low commercial index of the United States has already received comment. So has Norway's low railway index. Low railway indices for Australia and New Zealand are doubtless consequent on the newness of the lands. New Zealand is not all inhabited, and on that score is entitled to a reduction of territory that it has not received, as the detailed distribution of population is not known. Newfoundland's

lead in railways is of slight cultural significance. Her 666 miles of "government" railway have been built to assist the development of the island rather than in response to it. That was the necessary number of miles to get across the island. In the second group French Guiana and the Transvaal have abnormally high commercial indices. Both are gold exporting countries and both have their mines developed by foreign capital. Of Japan's commercial index we have already urged that it be regarded as a step in an amazingly rapid progress than as a low status. Small railway indices somewhat uniformly characterize South America, for which the rugged country is reason enough in the Andine republics.

In the Levantine class Egypt has extraordinary railway development, due perhaps to the peculiarly level, watered land along the Nile. In the Philippines the country is rough and the American occupation too new for railways or commerce to have much development as yet. Public education has already been imposed on a considerable number. The Guianas have only coast development, so railways are hardly in the scheme of things for them as yet. Ecuador has the Andine difficulty already referred to.

The Oriental class shows the best accordance of all. Colombia's educational index does not mean very much, for statistics are not a fixed habit in that republic.

The first maps prepared in this work were those showing the partial data for education, commerce and railways. Inspection of the indices showed a preponderance of low values. Of our 69 countries 49 had indices under 50 per cent. for schools, 55 for commerce and 62 for railways. This is partly due to the fact that some twenty countries at the bottom of the list hardly show stirrings of modern civilization (eleven are subject states), and partly because growth in culture is self accelerating. A country that enters resolutely in the way of progress finds it grow upon her. A ship, a school, a mile of railway is a mighty argument for a second. Thus progressive countries step rapidly apart from the backward ones. So our scale of a hundred units has been divided into four unequal divisions of $41\frac{1}{2}$, 27.7, 18.5 and 12.3 respectively, starting at the top of the scale. In this series each upper number is one and a half times as great as the next below, tending to bring a greater number of countries into the upper divisions. The highest group contains all countries with indices between 100 and 58.5, the next those between 58.5 and 30.8, then 30.8 to 12.3 and 12.3 to 0. In this subdivision of the 69 countries the indices bring 40 into the two lowest classes for

schools; 46 for commerce and 39 for railroads, a better showing than the above.



Diagram showing relative lengths assigned to each of the four groups of minor indices.

In the case of the general culture map the strict values have not been kept, but modifications introduced by seeking to divide the series of indices at the points where the greatest differences of value occur between European countries on the diagram Fig. 1.

The map of the distribution of elementary education shows distinctly the same groupings as the general culture map, except that Cape Colony is added to the Teutonic class, the Philippines and Ceylon to the Mediterranean, from which Transvaal and Orange River have been depressed. Colombia has been, somewhat doubtfully, lifted into the Levantine from the Oriental class, into which Egypt has been depressed. England does not attempt to take control of Egypt's schools as the United States those of the Philippines, evidence of the good faith with which she administers Egypt without attempting to make her English. These are few divergences, but it must be remembered that schools entered into the general culture values with twofold weight. The other data should show greater differences.

The commercial map shows them. Cuba, French Guiana, The Argentine Republic, Transvaal and Orange River join the countries of the first class, in which Norway, Sweden, Germany, France and the United States do not here appear. Austria-Hungary is commercially out of the highest or any Teutonic class and joins the Mediterranean nations. The Levant generally has commercially speaking become Oriental. This is true of railway development also. Here Britain, Belgium, Germany and Switzerland make the first class, mainly Teutonic, and the Netherlands, though not in this class, has a canal equipment that more than restores her to a place in it, if transportation in general be considered. Norway, Sweden, Austria and France form a second part-Teutonic group, in which Italy is included, putting her this time above the class of her Mediterranean neighbors, which she always inclines to lead.

But if culture is European and its distribution well enough indicated by the names Teutonic, Mediterranean and Levantine, how is it with the western continent? The relations there are set out on the diagram Fig. 8. It is plain that America has two cultures, Teutonic and Latin, divided at the Rio Grande. This is absolutely in accordance with the teachings of economic and historical geography.

Latin America is led by the Argentine Republic, with Uruguay closely following, if the small European colonies are passed over, and Cuba, stimulated by the United States. The Argentine Republic not merely leads Latin America but it is a very long lead, fifteen points ahead of her neighbor Uruguay and twenty-three ahead of Chile. Moreover, she is ahead of all European nations of this class, lacking little for admission to the Teutonic. She is only a little more behind the United States than she is ahead of Chile.

The second group for Latin America, Levantine, to use the European term, consists of Chile, Ecuador, Mexico, Paraguay, Central America, and Venezuela. If we admit a doubt about Ecuador and Venezuela which a very brief study of the state of statistics in those lands will justify, the group consists of the subtropic lands of America.

Within the tropics we have only nations whose culture is of the Oriental class. The condition of Brazil and the Andine republics is extremely backward. Brazil and the five mountain states, Bolivia, Peru, Ecuador, Colombia and Venezuela together claim over 30,000,000 people. All combined they have only \$512,000,000 worth of commerce. The Argentine Republic alone has \$545,000,000 of commerce, with less than a sixth as many people. It is true that southern Brazil, if it could be studied apart from the rest of the country, would show another state of affairs, but that concerns only a minor part of the whole Brazilian people, and in Europe, too, there are many great differences within the countries described, as Ireland and England, Rhenish and Prussian Germany. So far we cannot go. The figures just quoted justify what is familiar to those who have gone among the Latin-American peoples. Within the tropics life has been facilitated by the mountain climate, but this has not seemed to possess a stimulus to human exertion or accomplishment. What one sees in the larger cities might be described as veneer and vice. That is unfair to great numbers of worthy men and women, but it is not without foundation in fact.

A striking feature of the classification attained here is that the rank of the four culture groups is inversely as their age in history. The low Oriental stage prevails in the seats of the oldest historic civilizations. The Levantine reminds us of Egypt, Persia and Greece; the Mediterranean of old Rome, and the now dominant Teutonic, of the revival of learning and the passing of power along with science and letters to the north of the Alps. Is culture continuing a westward journey around the world, like the path of empire? Have those old nations learned their modicum of civilization, only to

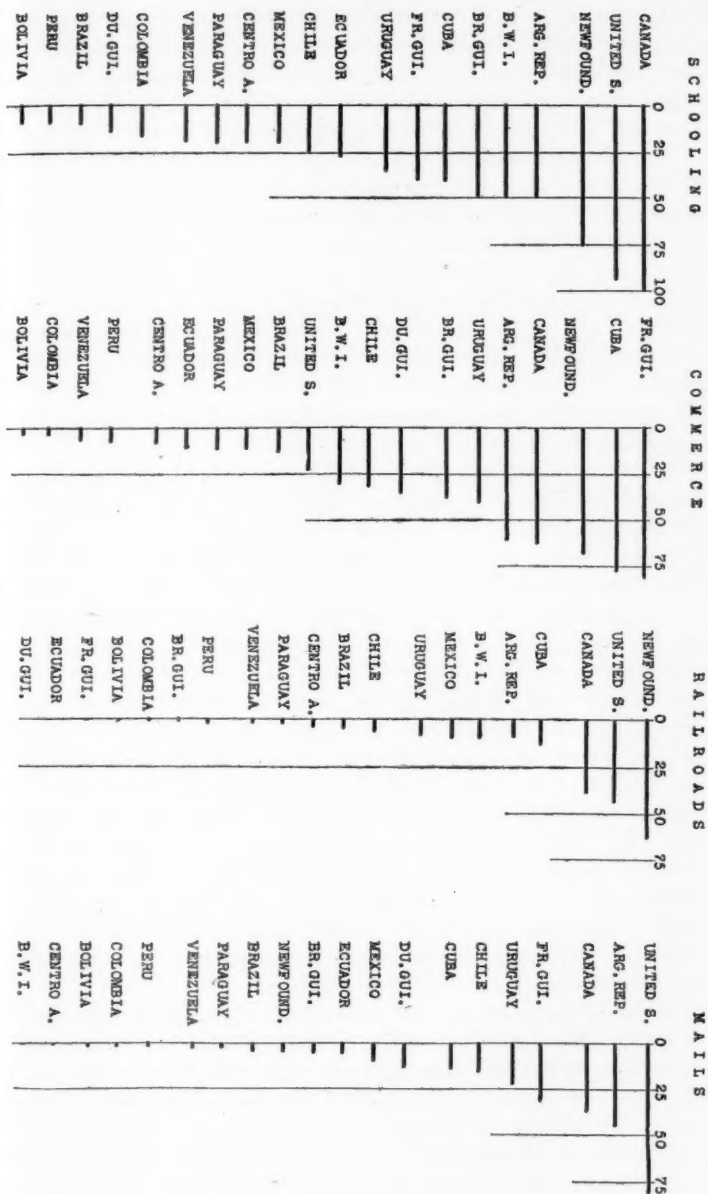


FIG. 8.—Comparative diagram of indices of American countries for schooling, commerce, railroads and mails. The countries fall roughly into groups.

stagnate afterwards for a thousand years while others carried further the same work of human uplift? Or is it to be again possible for them to take up man's burden of the conquest of nature? Japan, long of Oriental grade, is rising now into competition with Teutonic lands on their own plane. Is it going on into first rank? Are Teutonic nations in an area of stagnation from the standpoint of progress in civilization? Have they wrought out with their intellects plans they have not will to realize? And is Japan now in process of imitation by her immense continental neighbor? If Japan reaches high levels in a culture of the Teutonic cast, it is safe to predict it will not be on her present soil, more niggardly of sustenance space than any land but Norway. Have other races right to maintain property in great empty spaces that might serve man's uses while a virile people like Japan's are huddled and constrained on their narrow fields of available soil? Poverty and progress are bad neighbors, and poverty hangs heavy on the Orient to-day, the poverty of scanty, costly lands.

Will any mental or governmental process relieve Asia of the handicap of an overcrowded soil? The wealth of the nations would be a splendid basis for a study of their comparative culture. Much of the westward progress of Empire has been a seeking of new lands. But it has not always been to the west. When Australasia offered the Englishman new lands in the East, he did not hesitate to move east to occupy them. So the Russians are expanding eastward into Siberia, and the greatest step in Spain's conquest of Latin America was her moving eastward across the Andes in Bolivia and Chile into the plains of the Argentine in 1575. Europe looks doubtfully at the culture of the new world. It has done so many material things; has it appreciated those of the spirit? But even such is the Orient's question of European culture: is it not material largely? Yes; the material mastery of natural forces is the foundation of western wealth and of the leisure and culture built upon it. Not railways, not schools, not commerce, as they are to-day, made a Shakespeare possible, for they had not come. But a people in a culture stage that was to bring all these things presently, is what made, not Shakespeare, but the possibility of him.

And now, we must ask, how sound is the argument that has reared up all this structure on our basis of statistics? The best confirmation appears in the accordance throughout geographical or historical spaces of the inferences drawn from data supplied by political units only. The chance that throws all the North Sea shores into one class, those of Mediterranean Europe into another and the Levant into a third, while dealing with data gathered from the offices of

eighteen European governments, where was no thought of such an application of them, is no chance at all, but the working of cause and effect. We have used what came to hand as a statistical base, and we have come into confidence that, had we data about more typical aspects of culture, we should find them in accordance with the classification that has resulted. If we could know the consumption of soap in every land, we should either see confirmed Liebig's dictum of its proportionality to civilization or learn why not. We expect high consumption in Teutondom, less high in the Mediterranean, low in the Levant and well-nigh none in the Orient.

Two items that may become accurately available in the near future are the production of new books and new inventions. The difficulty to-day is the lack of common agreement in defining a book or an invention. Germany, claiming the enormous output of 30,000 books a year, counts leaflets, circulars and pamphlets. Swiss data distinguish as books volumes of at least 100 pages, though pages vary widely in content. A search through the pages of the *Publishers' Weekly* for the last year justifies the following as the best list of books and new editions for the years 1907 or 1908. The Russian data almost certainly include many pamphlets, which have been excluded for countries where any hint as to their number exists. In Germany, for instance, it is assumed on not very sufficient grounds that these numbered 17,000.

	BOOKS.	BOOKS PER MILLION.
Switzerland.....	3,085	855
Belgium.....	2,107	466
Netherlands.....	2,400	414
France.....	8,800	225
United Kingdom	9,820	223
Germany.....	13,000	207
Italy.....	3,500	203
United States.....	9,250	108
Russia.....	9,700	76
Uruguay*.....	50	50

* Includes pictures and copyright music.

While Mediterranean countries are not well represented in this list, the book-trade is. There is no doubt that most books are published in the countries named and that the Teutonic class leads here as in other things.

GENERAL TABLE.

	(THOUSANDS)		TOTAL EXPORTS AND IMPORTS IN MILLION DOLLARS.	MILES OF RAILROAD.	THOUSANDS ENROLLED AT ELEMENTARY SCHOOLS.	INHABITED AREA THOUSANDS SQ. MILES.	PER CENT. OF POPULATION AT SCHOOL.	MILES RAILROAD IN 100 INHABIT- ED SQ. MILES.	DOLLARS MERCHANDISE PER CAPITA.	PIECES MAIL DE- LIVERED PER CAPITA.
	SQ. MILES	PEOPLE								
United States.....	2970	6 83941	6 2070	5 217341	5 15788	2000	19	11	35	130
Canada.....	3747	1 5371	6 551	5 20601	1115	300	21	10	93	53
Newfoundland.....	40	4 223	5 20	666	4 34	4	15	16	100	6
Mexico.....	767	0 19060	6 246	13515	4 630	600	4	2.3	16	13
Central America.....	169	5 4108	5 50	874	136	128	4	1.	12	0.6
British West Indies.....	13	1657	73	301	179	—	10	2.3	45	0.4
Cuba.....	44	99 1573	5 216	5 1479	4 143	—	8	3.4	114	19
Argentine Republic.....	1136	5 5678	5 545	5 12274	5 544	560	10	2.2	90	64
Bolivia.....	708	6 2268	5 25	5 384	6 49	500	2	0.06	11	9
Brazil.....	3219	0 17371	5 374	10408	(347) 731	—	* 2	1.4	20	4
Chile.....	308	3 3306	5 163	2950	3 167	180	5	1.6	46	31
Colombia.....	445	5 4280	5 20	411	(154) 300	—	* 3.6	0.1	5	1
Ecuador.....	116	5 (1306)	5 18	104	(30)	70	10	0.1	56	6
Guiana.....	90	5 303	5 17	104	(30)	—	10	0.1	56	6
Dutch.....	46	4 75	5 4	0	2	—	8	—	53	19
French.....	30	1 38	4 4	0	24	—	8	—	121	44
Paraguay.....	98	5 631	5 10	156	25	50	4	0.3	16	3
Peru.....	696	96 4610	5 51	1146	3 105	420	2	0.3	10	3
Uruguay.....	72	4 1088	5 62	1210	3 76	72	7	1.7	60	31
Venezuela.....	364	5 2902	4 24	3 540	(112) 250	—	* 4	0.2	9	3
Australia.....	2973	5 4053	6 555	5 14768	5 829	323	20	4.6	190	97
New Zealand.....	105	6 896	5 138	6 2520	5 158	105	17	2.4	153	97
Afghanistan.....	250	(5000)	9	0	0	—	0	0	1	—
Ceylon.....	25	1 3678	5 75	5 561	5 268	—	7	2	17	4
China.....	1532	(407000)	5 557	5 3700	(?) 700	—	0	0.5	1	0.2
Dutch East Indies.....	736	(36000)	4 235	5 2950	4 215	—	0.6	0.4	6	0.9
French Indo China.....	256	18230	5 72	5 530	20	—	0	0.2	4	0.6
India.....	1767	1 294361	5 1145	5 28295	5 4330	—	1.4	1.6	3	2
Japan.....	161	5 47812	6 420	5 5014	5 5154	—	11	3.1	9	22
Korea.....	82	(13000)	5 30	612	?	—	0	1	2	0.1
Persia.....	628	81 7653	5 50	6 6	?	—	0	0	5	0.3
Philippines.....	128	3 7635	5 63	6 190	5 515	—	7	0.1	8	1
Siam.....	220	4 6087	5 50	5 395	61	—	0.0	0.1	7	0.3
Abyssinia.....	300	(10000)	6 11	0	?	—	?	0	1	—
Morocco.....	219	(4500)	5 21	0	0	—	0	0	5	—
Anglo Egyptian Sudan.....	950	6 (3000)	?	150	6 1	—	1/20	0.02	7	—
Cape Colony.....	277	4 2410	5 160	5 3893	4 316	111	13	3.5	64	27
Egypt.....	400	97 9734	6 300	5 1453	97 174	13	2	11	31	4
Natal.....	35	4 1109	5 69	5 818	5 30	—	3	2.3	57	51
Orange River Colony.....	51	4 387	5 35	6 797	6 16	—	4	1.5	90	3
Transvaal.....	111	4 1270	5 186	5 1788	6 43	—	3.4	1.6	143	14
Minor British Africa.....	1888	4 26312	5 96	5 3280	105 137	—	1/6	1	4	—
Algeria.....	344	6 4740	5 122	5 1940	160 150	4	1.2	0.04	26	12
Madagascar.....	228	4 2645	6 11	6 92	3 66	—	3	0.04	4	1
Tunis.....	65	(1900)	5 30	567	4 20	—	1	1	26	14
Minor French Africa.....	3896	(24331)	4 47	1009	31	—	1/10	0.03	2	—
Congo Free State.....	900	(30000)	5 14	0	0	—	0	0.03	1/2	—
Liberia.....	45	(3000)	1	0	?	—	?	0	1/2	—
German Africa.....	931	12210	19	417	40 600	—	3/10	0.07	11 1/2	—
Italian Africa.....	188	850	3	48	0	—	0	0.03	3 1/2	—
Portuguese Africa.....	798	8206	23	307	0	—	0	0.04	3	—
Austria Hungary.....	241	0 45405	5 880	4 24148	4 6558	—	14	10	10	47
Belgium.....	11	5 7161	5 1840	4 2836	4 1114	—	16	25	264	85
Denmark.....	15	6 3005	5 312	5 1993	5 330	—	13	13	125	57
France.....	207	6 36252	6 2472	4 24735	4 5417	—	14	12	63	70
German Empire.....	200	5 60641	5 2766	4 34820	1 3925	—	16	17	45	115
Greece.....	25	3 2645	5 45	4 700	2 233	—	9	3	16	12
Italy.....	111	6 33733	5 703	6 10070	2 3090	—	9 1/2	9	24	28
Netherlands.....	13	5 5592	5 1845	5 1817	5 967	—	17	14	329	33
Norway.....	124	0 2240	5 143	6 1584	3 350	31	15	5	60	67
Portugal.....	35	0 5423	5 95	5 1530	240	—	4+	4	17	16
Rumania.....	51	99 5997	5 159	5 1974	4 474	—	7	4	29	14
Russian Empire.....	8648	97 12914	5 1007	1 40748	3 5345	2457	4	1.7	7	11
Servia.....	19	5 3269	5 26	4 304	4 122	—	4 1/2	2.1	9	11
Spain.....	150	0 18048	5 351	6 9190	1 1617	—	9	4.8	19	23
Sweden.....	173	5 5295	5 279	2 7677	4 747	—	14	9	53	70
Switzerland.....	16	5 3464	5 493	5 2930	4 537	—	86 1/2	16	182	143
Turkey.....	158	0 30000	1 168	5 3637	1331	—	6	0.3	7	1.5
United Kingdom.....	121	6 48650	6 5107	5 22847	5 7587	—	18	19	119	110

* General table of data used, mostly from the Statesman's Year-Book. The small numbers to the left in columns 2, 3, 4 and 5 are the dates of the data. In some cases, Canada, for instance, the dates are not the same for population and commerce. If the numbers printed were used to obtain the *per capita* commerce, too large a value would be obtained, since the population of 1901 was smaller than that of 1906. We should have obtained 102 dollars *per capita*. In each such case an estimate was made of the population for the year in question. The sixth column—inhabited area—gives values only when a reduction is made for lands possessed by the nation, but not inhabited by it with more than $2\frac{1}{2}$ people to the square mile. When no such reduction is necessary, the first column of numbers gives the area. Some countries, like Congo State, have need of such reduction, but in our ignorance of the distribution of people in Central Africa, we have not attempted it. Of course there are practically no railroads and no present need of the datum.

The division of the world into 69 countries is of course arbitrary. Bulgaria, for instance, has as much right to be included as Rumania or Servia. It was simply overlooked when the first list was made. It is interesting now to see that its culture number is 21, just below the Mediterranean grade and at the head of the Levantine, as the place of the country on the map demands. Computation for Cyprus, Finland and Porto Rico has been made, getting the numbers 25, 24 and 17, which will be seen to fit well with the data mapped.

POLYNESIAN WANDERINGS*

A REVIEW

BY

S. PERCY SMITH, F.R.G.S.

President of the Polynesian Society

In what consists the ever constant interest in the handful of people that comprises the Polynesian race? Ever since Wallis, Cook and Banks made known to the world, in the last quarter of the eighteenth century, the existence of this people, with much and valuable information of a scientific nature regarding them, this interest in them has grown, and is still a powerful attraction to all who have ever come in contact with them. The answer is, no doubt, the mystery that surrounds their origin, their intelligence, their charming personality, and—one likes to think—their common source with ourselves from the Caucasian branch of humanity, which induces in us a feeling of sympathy and affection above that felt toward any other colored race. Their intelligence is of a high order as compared with other peoples in the same plane of culture, and this is proved by the fact that many of those whose grandfathers were savages and cannibals are now found holding their own with our people at the universities, in politics, etc., quite a number holding high degrees, and competing with our older civilization in the professions of law, medicine, the Church, etc. It was this high intelli-

* The Polynesian Wanderings. Tracks of the Migration Deduced from an Examination of the Proto-Samoan Content of Efaté and other Languages of Melanesia. By William Churchill. viii and 516 pp., maps, appendices and index. The Carnegie Institution of Washington, 1911.

gence that enabled the ancestors of the present people to become one of the leading races of navigators at a period when our ancestors had not emerged from the stage of coastal voyagers. Our author, in the work we are about to discuss, does not touch on this question in detail; it was not necessary to his purpose so to do; he necessarily treats it as taken for granted. It is nevertheless difficult for those who have had no personal knowledge of the people and their well preserved traditions, to believe that the Pacific Ocean, from New Guinea to Easter Island in the far east, from the Hawaiian Islands to New Zealand, distances approximately of 6,000 and 3,500 miles, was completely known, and the sailing directions for each island duly recorded by the learned men of each division. Before me as I write lies a list of eighty-five islands known to and discovered by these people in the seventh, eighth and ninth centuries, and the record in which these are found adds that "the half of them are not told." With their known powers of traversing long distances of ocean, it is not at all beyond the bounds either of possibility or of probability that these daring voyagers saw the west coast of America, centuries before Columbus or Cabot discovered the eastern shores of the two continents.

But in this connection we are concerned with the migration of the Polynesian people from the west. There are several ways of attempting to solve the mystery of their origin; for instance, the traditions of the people; the comparison of their manners and customs with those of other races; the physical structure of the race; the linguistic, etc. Mr. Churchill attacks the question from the latter standpoint, and that he has gone into it more deeply than any of his predecessors is very apparent by the large amount of data he supplies and on which his arguments are based—indeed it is only within the last few years that the wealth of philological matter relating to the Polynesian language, and, to a much less extent, to that of the Melanesian, has become available. Not only has the author considered this question as indicated by the study of the two languages just mentioned, but he has extended his researches into those of Indonesia, where abundant material exists. It has frequently been held that language is by no means a safe guide to identity of race, but on this point opinion varies to opposite extremes; its value largely depends on the manner in which the question is dealt with. A late authoritative opinion on this subject may be quoted here: Prof. William Ridgeway, Sc. D., in his presidential address to the Royal Anthropological Institute of Great Britain, delivered on Jan. 25, 1910, says, in discussing more particularly the question

of environment as affecting race history: "Finally, I was led to the conclusion that language, when once we realize the laws that govern its borrowing by one race from another, may be taken as a test of race really as the surest when dealt with broadly and over wide areas, and not merely in the way of guesswork etymologies in the case of isolated words." There seems to us no question that our author has treated his subject in the manner indicated by President Ridgeway.

The general conclusion at which the author arrives after a most exhaustive study of the available data, does not differ from most of his predecessors in the tracing of the migrations from Indonesia. Beyond that he does not carry his investigations. But his book adds fresh evidence to the course of the migrations, on which his linguistic studies throw much light and enable him to add much detail on the intercourse between Melanesian and Polynesian as the latter people passed down the eastern shores of that long chain of islands extending from New Guinea to Viti and Samoa, to which latter groups and others surrounding them he gives the name of Nuclear Polynesia. This is a convenient term when we consider the important and very early part its people have played in sending off from their shores the many pioneer expeditions that have peopled the rest of Polynesia. It is to be noted, however, that the Polynesians themselves have a name for these groups which is expressive and from which a good deal of their history may be deduced. This name is *Hawaiki-raro*, or *Leeward Hawaiki*, in contra-distinction to *Hawaiki-runga*, or *Windward Hawaiki*, a name that includes Tahiti and the neighboring groups. They are derived from the fact of the trade-wind blowing from an easterly direction. The name *Hawaiki** itself is that of the most ancient home of the people of which they have traditional knowledge, and that this traditional home was a continent rather than an island there is much evidence.

The author's linguistic studies confirm in a remarkable manner the traditional belief in a two-fold—perhaps, in truth, a manifold—exodus from Indonesia, to which he gives (p. 45) the appropriate names of "Proto-Samoan" as representing the very earliest migration into the Pacific now best represented by the Samoans; and "Tongafiti," applied by the islanders themselves to that element of the race which subsequently developed into the Hawaiian, Tahitian, Paumotuian, Marquesan, Rarotongan and New Zealand branches. It is the first of these movements with which this book especially

* This is the Maori or New Zealand form of the word; it varies dialectically as *Savai'i*, *Avaiiki*, *Havaii*, *Hawaii*, etc.

deals, and the author has devoted a very considerable portion of it to showing the linguistic evidence of Proto-Samoan contact with the Melanesian Islands to the exclusion of the Tongafiti or later migrations altogether, which, therefore, would appear to have followed a somewhat different route after they once entered the Pacific. What these routes were it is somewhat difficult to say, for while the "log-books" of the Tongafiti migration are full of the names of places at which the fleets called, the most of them (with the exception of one referred to later) are unrecognizable at the present day owing to the fact that the names of the islands have been changed since the migrations passed by them or left colonies on them. On the chart that accompanies the work an ingenious system of linguistic contour lines is shown, indicating graphically the results obtained from the large amount of tabular comparisons of words, showing by numbers on the lines the proportion of words common to Melanesian and Polynesian. From this chart the course of the Proto-Samoan and the Viti stream of migration are plainly seen, as suggested by the linguistic contact. The author would be the last to deny the possibility of change in some of these contour lines (and derivatively therefrom, lines of migration) whensoever we shall possess fuller information as to the Melanesian languages, for up to this date Dr. Macdonald's "Efaté," and the Rev. John Inglis' "Aneityumese Dictionaries" (both New Hebrides dialects), together with the dictionary of the Mota by Codrington and Palmer, are the only works that treat of that group of languages at all completely in the dictionary form, whilst Dr. Codrington's "Melanesian Languages" deal with the form and structure of the languages as a whole. The rest of Melanesian speech is comprised up to the present in brief vocabularies. It is perhaps scarcely necessary to add that it is far otherwise with the dialects of Polynesian, of which there are many excellent dictionaries, and one comparative dictionary of the whole language by Ed. Tregear.

Dr. Macdonald's Efaté dictionary has furnished the author with a theme that runs like a thread through a large part of his work. Dr. Macdonald is the expositor of a theory which endeavors to make the Polynesian and Melanesian speech a close kin of the Semitic languages. Our author has devoted a considerable amount of trouble to exposing the fallacy of this theory, and it seems to the common sense man that he has succeeded, while at the same time acknowledging the excellent work in Dr. Macdonald's dictionary.

The author deals exhaustively with the theory originated by Dr. Thilenius, which advocates a more easterly route for the migrations

by way of the Gilbert, Marshall, Union, Ellice and other groups to Nuclear Polynesia, and holds that the prevailing direction of winds and currents would prohibit their following the route coasting the Solomons, New Hebrides and Fiji groups to the same parts. Our author combats this theory and shows at great length the ability of the old Polynesian canoes to face the trade winds whenever the occasion arose. He sees in the inhabitants of the fringing and smaller islands in the space he terms "the Polynesian verge"—occupied almost exclusively by Polynesians or by Melanesians much mixed with the former—a proof of the coastal route adopted along the Solomons, New Hebrides, etc., by the Proto-Samoans. He comes to the conclusion, as many of us have done, that this range of off-islands east of the Solomons was settled by Polynesians on their route to the south, and not by stray parties blown from islands to the east, which are, and appear always to have been, occupied by Polynesians.

The linguistic chart already referred to shows with tolerable certainty that the Proto-Samoan migration must have coasted the Solomons and Santa Cruz group by sailing close-hauled to the south-east, and thence to the Viti Archipelago. To enter into the question why these Proto-Samoans, with their civilization superior to that of the Melanesians, did not expel some of the latter from their homes and occupy them themselves, would lead us too far beyond the limits of a review. But there is a reason why this migration so closely hugged the trade wind blowing from the Viti group which is not mentioned by the author, and yet, inquiry will probably show, as it has done in other instances, that it was the flight of land-birds that ever caused these bold sailors to struggle to windward to reach the land their acute observation of nature led them firmly to believe lay in the direction whence the birds came.

It was thus that New Zealand, so very far distant from those parts of the ocean traversed and retraversed by these able voyagers, was first discovered. There are three species of birds which annually visit New Zealand from the Pacific islands, Australia and far beyond—even so far away as the tundras of Siberia—and these have been the pilots that led to the discovery of many a Polynesian island. We hold that the flight of birds has been an all important factor in inducing the struggle of the migrations against the prevailing winds; and the inclusion of this idea in the author's description of the "close-hauled" course of the canoes from the Santa Cruz and New Hebrides groups to Viti, would have relieved the somewhat labored argument necessitated by the obstruction of the trade wind to the southeast-

erly course actually followed, and in which many writers not acquainted with the powers of Polynesian craft, have seen a serious objection to the westerly origin of the migrations. The southeasterly trade winds do not, however, blow constantly; from October to March there is much variable weather, with frequent northerly and northwesterly winds, which would be taken advantage of by such acute observers of nature. And, moreover, the people were accomplished in the use of the paddle with which they would constantly face contrary winds.

In Chapter VIII. the author deals with the question of the Indonesian contact with Polynesian speech, but does not give to it so much consideration as has been devoted to that of the Melanesian, for the sufficient reason that * * * "this speech area has its own diligent students, and to their researches we owe the present advanced state of our knowledge of the multiplicity of Malaysian speech."

In this connection we notice with pleasure that the author has driven another nail into the coffin of the "Malayo-Polynesian" theory, which so long has retarded a true conception of Polynesian origins. He says: "There are very few items which are not included in the data here assembled. See what a small basis it forms for the erection of a Malayo-Polynesian family! In the Malay itself, the speech of which we have the longest record and the fullest comprehension, there are but 75 vocables safely identified as common, in these data, to the two families. Making the most generous allowance, a lavish allowance, for the vocables which evaded compilation under the conditions of this research, we can only thus doubtfully find a community of 150 words."

Surely it is time this theory were decently buried and never again allowed to be dragged like a red herring across the scent, to the confusion and multiplication of the errors it has involved in many writers. To such an extent indeed has it prevailed that we find authors who are thoroughly acquainted with the Polynesians actually referring to them as Malays, whereas we think there is no warrant either from the ethnic or linguistic point of view for such an idea. That there is some linguistic connection between Malay and Polynesian, our author (and others) has shown, but not to an extent authorizing the belief in a common origin of the two peoples, of which one is Mongoloid, the other Caucasian. The author points out what is probably the true source of this connection, and which has been hinted at in "Hawaiki," and by Fornander; namely, that it was the irruption of the Malay people into Indonesia that gave the

impetus to those extensive migrations of the Polynesians that have led them in the course of time to all parts of the Pacific. This expulsion was a process of many years, perhaps centuries, and during the continuance of it, contact between the two peoples could not have been otherwise than frequent, often by the capture of Polynesian women who would thus leave to their offspring by Malay fathers many words of their mother tongue, and hence we find them garnishing the Malay speech of to-day.

In Chapter IX. the author summarizes his conclusions in perspicuous form and draws attention to the mutual support of tradition and the philological argument, emphasizing that the former are quite clear on the early migration of the Proto-Samoans as distinguished from that of the Tongafiti, or later migrations, which he holds did not follow the same course as the earliest ones. Now the Tongafiti no doubt migrated by more than one route and at various times, and here we are able to support the author's theory by a summary statement deduced from traditions that have never been published, and with which of course the author could not possibly have been acquainted. These particular records were dictated by one of the last of the priests of the *Whare-wānanga*, or House of Learning, between the years 1840 and 1858, and are now in the possession of the Polynesian Society. One of these traditions traces a migration from the original home in Hawaiki (also called Irihia) whence they were expelled by a numerous people from "The land of Uru." Taking to the sea, they next occupied a country to which they gave the name of Tawhiti-nui. Again they were expelled by a black or dark people, and then with seven large sea-going canoes fully provisioned, steered before the southwest monsoon* in a northeasterly direction until they discovered a group of islands to which they gave the names of Hawaiki, Maui-nui, Maui-iti, Maui-taha and Ahu. From this group, after some generations, they came due south to other islands, which were named again Hawaiki and Tawhiti, and from thence, again after many generations they came away, steering "to the right hand of the setting sun, the moon, and Venus," in the month of February to New Zealand. Now in this tradition we see the course followed by the ancestors of those Maori tribes who dwell on the east coast of New Zealand, and it is clear that Tawhiti-nui is some land in Indonesia—perhaps either Sumatra or Borneo (probably the latter)—and that the second Hawaiki, the three Maui's and Ahu, are Hawaii, Maui and the two islands to the north and west respectively of the latter,

* Of course, the S.W. Monsoon would only help the voyagers part of the way.

Molokai and Lanai, and O-ahu of the Hawaiian Islands. The third Hawaiki is Tahiti, of which, and of the islands around it, the ancient name was Hawaiki.

This very brief statement of one of these extensive voyages confirms the author's theory that some of the Tongafiti came by a different route to that of the Proto-Samoan, while at the same time it does not account for the larger swarms of the former people who once occupied Viti, Samoa, etc., whose route cannot be exactly traced because the names of places mentioned by their traditions are now overlaid by more modern ones.

The author does not profess to indicate the original home of the Polynesian people; he traces them no further to the west than Java. But we may here ask why he has neglected that further outpost of this people in the Mentawai islands off the west coast of Sumatra. What we know of the inhabitants of this group, their customs, their entire difference from those of the neighboring lands, and a few words of the language—besides pictures of them—tends to the belief that we have here a belated colony of the Polynesians, left behind as the migrations passed to the east from further west, from, let us say, India on their way to Indonesia.

In an addendum to the book the author deals with some later material which he treats in the same rigorous manner as the former parts. These data refer to the vocabularies of Nuguria, a little island off the Solomons, and to Rapa-nui or Easter Island. With regard to the latter we learn that the dialect contains much more of the Proto-Samoan than the islands to the east—*i. e.* Tahiti, Paumotu, etc., and the author accounts for this by the suggestion that it was peopled by a combination of the two elements—Proto-Samoan and Tongafiti. But he sees a difficulty in regard to the traditional date of settlement, which he quotes as fifty-six generations ago, or about the year A. D. 500, or before the Tongafiti people had arrived in those parts. Now, if we mistake not, this "fifty-six generations" is taken from Paymaster W. J. Thomson's "Te Pito te Henua, or Easter Island." Considering the circumstances under which this and other information—notably the translation of the tablets, etc.—was communicated, considerable doubt must be felt as to the reliability of the names therein given; the more so as Dr. Lesson, the author of "*Les Polynésiens*," gives two lines of twenty-three and twenty-seven generations since the ancestors of the present people occupied the island. Dr. Lesson from his long sojourn in Polynesia ought to be a fair authority. If he is right, Mr. Churchill's difficulty would disappear.

Altogether "Polynesian Wanderings" marks a great advance in the method of treatment of the interesting questions with which it deals, and the thanks of all Polynesian scholars are due to the author for the new light he throws on many obscure points, and for the laborious work he has brought to so successful a termination.

REGIONAL PECULIARITIES IN PLACE NAMES

BY

R. H. WHITBECK

University of Wisconsin, Madison, Wis.

When taken together, the place names of a region often give an insight into its history or religion, or into the economic and social status of the early inhabitants. The various types of place names may be broadly grouped in two classes:

(1) Names which have been deliberately and thoughtfully conferred.

(2) Names which have merely attached themselves to places, and are whimsical, freakish, or accidental.

It is probable that behind every place name there lies some reason, even in the case of the most freakish. Place names which have been conferred with deliberation are usually

(1) Descriptive, *e. g.*, names ending in *ford*, *falls*, *springs*, *vale*, etc.

(2) Commemorative,

of a person, *e. g.*, Delaware, Hudson, New York, Baltimore, or of an event. Immediately after such events as the sieges of Lucknow or Sebastopol, or the victories of Sedan, Manila, or Santiago, these names leap upon the map in various parts of the world, or

of an older place. Thousands of places in the West are named from places in the east and they in turn from places in England.

The place names bestowed upon a region at any particular period are generally full of historical significance.

(1) They usually tell the nationality of their authors. There are layers or patches of Celtic, Roman, Danish, Saxon, or Norman

names in England. In the United States, the Dutch left a trail of names in eastern New York, the French in Louisiana, the Spanish in Florida and California.

(2) They not infrequently tell the religion of their authors. Wherever the explorers and settlers were Catholics, place names abound in Saints, Sans, Santas; and such names as Los Angeles, Conception, and Trinidad, are frequent. The Puritan and Quaker communities and other religious settlements frequently have Bible names. There are about twenty places named Bethany and thirty named Bethel in the United States.

(3) Place names reflect the stage of culture of the people who bestow them. Primitive peoples use descriptive words. Indian names nearly always consist of a descriptive phrase, as Connecticut, *the long river*; Missouri, *muddy water*; Minnesota, *cloudy water*. Names given by hunters, miners, and mountaineers reflect the unschooled character of the people and their limited fund of names upon which to draw. On the other hand, people familiar with history and literature are likely to draw upon these sources for place names.

(4) The rise of a popular hero is recorded in a liberal sprinkling of places named for him and coming upon the map in the climax of his fame. Thirteen Deweys were added to the postoffices of the United States in 1898 following the battle of Manila; fifteen Schleys, after the battle of Santiago, and sixteen Roosevelts after the campaign in Cuba.

Other well-defined principles which obtain in the bestowal of place names might be cited, but the foregoing are sufficient for illustration. For the purposes of this paper, five regions have been selected. In each there is a rather striking group of names, which are not prominent elsewhere and which, with one exception, have a distinct historical relationship. These regions are situated in (1) New England; (2) New York; (3) New Jersey; (4) Virginia; (5) Kentucky and Tennessee.

NEW ENGLAND NAMES

No one can study the names which New Englanders bestowed upon their villages and towns without being impressed by two facts:

1. The very strong influence of Old England upon New England.
2. The evidence of both culture and character in the names.

New England town names are neither original nor picturesque, but they possess quality. They abound in the names which adorn the best history and the imperishable literature of Old England. The

people who made New England knew something of the history, the traditions and the literature of the mother country, and when they wove the mesh of place names which they spread over their new country, they unconsciously wove into the fabric the honored names which to them were familiar.

Not all New England geographical names have this character. The rivers and lakes abound in Indian words and the local names applied to prominent hills or peaks are mediocre. The real character of the early New Englander shows out only in the names of places.

In the following list taken from the Farmington Quadrangle (Connecticut), including the region about Hartford, the two characteristics of New England town names are seen, namely, their English ancestry and their substantial quality:

Granby	Bristol	Windsor	Glastonbury
Suffield	Hartford	Manchester	Southington
Enfield	Simsbury	Middleton	Hartland.
Barkhamstead	Farmington	Cheshire	

The truly characteristic place name in England is constructed on the same plan as a person's name. The ending is a family or group name, as -field, -ford, -ham, -bury, -ton, or -chester, while the first part of the word, like the given name of a person, is the specific or distinguishing name. There are large families of -fields, -fords, -burys, -hams, etc., just as there are Browns, Smiths, and Thomases. This same tendency to construct a place name of two parts by adding a conventional suffix such as -ford, -town, -ville, -burg, or -ton to a distinguishing prefix as in Fitch-burg, Brock-ton, or Springfield, is the common practice in the New England and Eastern States, but constantly diminishes toward the West. This is one of the ways in which place names show the decline of English influence as we go westward and the rise in the middle West of distinctively American notions and traits.

To illustrate: the ending, -ford, is a favorite one in England. In Connecticut, one place in every twenty-three ends in -ford and seventy-four per cent. of the place names are of the compound type, ending in -ville, -bury, -town, -field, etc. In Nebraska, on the other hand, only one place in 200 ends in -ford and only twenty per cent. of the names are of the compound type referred to.

While the names which the New Englander gave to his towns and villages are a credit to him, the names which have attached themselves to the conspicuous hills and peaks are of an entirely different character. Here are some selected from the section before

alluded to, the region about Hartford, Conn.: Bushy Hills, Barndoor Hills, Rattlesnake Hill, Burnt Hill, Whortleberry Hill, Bear Hill, Cherry Hill, Ragged Mountain, and Cathole Mountain. Yet the New Englander has done exactly what people seem to have done the country over when naming local hills and peaks. They allowed a crude, semi-descriptive term to attach itself and become the fixed name. And the practice seems to be founded in human psychology, for it is widespread.

INFLUENCE OF THE TOWNSHIP SYSTEM

Aside from the English influence evident in New England place names, and the general strength and quality of those names, there is another interesting trait. It is the influence of the township system. The New England township was no mere surveyor's unit, as it has been in parts of the West. It was a genuine territorial and governmental area. Nowhere else did the town-meeting have such a significant development and nowhere else has the township unit of self-government been so important in the community life. This importance of the township comes out strikingly in place names. Lebanon township in Maine, for example, contains the following villages: East Lebanon, North Lebanon, Center Lebanon, West Lebanon, and South Lebanon. Cornwall township in Connecticut contains Cornwall Hollow, West Cornwall, Cornwall Center, East Cornwall, and Cornwall Bridge.

This is quite the common thing in the older parts of New England. Maine's 1,200 postoffices include nearly 400 in which East, West, North and South are prefixed to a base name which is usually the name of the township in which they are found. About twenty-five per cent. of the town names of Massachusetts are of the same character. While New England names possess character, frivolous or freakish town names being exceedingly rare, yet they seem to be token a people notably lacking in imagination. Five Lebanons in one township, and five Cornwalls in another, hardly suggests inventiveness. Here is another illustration: In southern Maine is a hill locally known as Blue Hill. The township is named Blue Hill. In the neighborhood are Blue Hill (village), Blue Hill Mineral Spring, North Blue Hill, South Blue Hill, East Blue Hill, Blue Hill Falls, Blue Hill Harbor, and Blue Hill Neck. All of these appear upon the map. Whether there are still other Blue Hills, not deemed worthy of a place upon the map, I can not say. Another locality is not content with a village of Yarmouth, and one of North Yarmouth, but adds an East North Yarmouth.

As you move westward along the path followed by emigrant settlers from New England, the township unit of local government continues, but its importance diminishes and its decline is marked by a decline in the frequency of the type of names which grew out of the township system. In New York, about eleven per cent. of the town names have the prefix East, West, South, or North; in Ohio, four per cent.; in Michigan, about three per cent.; in Wisconsin, two per cent.; while in the States further west, such names scarcely appear at all. However, the dull monotony of East, West, North, South and Middle is preferable to the insipid and characterless place names that appear in profusion in parts of some of our newer States, such for example as Abo, Alice, Amy, Anabel, Annie, Arnica, Attie, Aud and Ava, or Daisy, Damsel, Date, Dit, Dora, Dottie, Drum, and Duck.

CLASSICAL NAMES OF CENTRAL NEW YORK

The State of New York has a sprinkling of names, largely in the middle counties, that attract attention. In this case, no historical significance attaches to the group. They are merely names wantonly imposed upon the map, it is said, by a hollow-eyed classicist in the land office at Albany in the early days. Here are some of them:

Aristotle	Euclid	Ovid	Scipio
Attica	Fabius	Palmyra	Sempronius
Aurelius	Hannibal	Penelope	Solon
Carthage	Hector	Plato	Syracuse
Cato	Ithaca	Plutarch	Troy
Cicero	Junius	Rome	Utica
Cincinnatus	Macedon	Romulus	Virgil.

NEW JERSEY'S COOL AND BALMY NAMES

New Jersey has won some small notoriety as a home for trusts. A study of New Jersey place names should convince even the skeptic that the State is just as anxious to offer attractive homes to commuters, summer boarders and residents generally, as it is to offer a home for corporations. This enterprising little State lies near the two great cities, New York and Philadelphia. Many of the denizens of these cities, particularly of the former, live within brick walls; their outlook is upon brick walls; they work within brick walls and go to their work between brick walls. Sometimes they see the green hills of Jersey across the Hudson, and imagination pictures a cosy little home, with green grass, a tree and a breath of cool air in summer. Here is a suggestion for the real estate promoter, or perchance for the summer hotel and boarding-house keeper. The promoter is

a psychologist. He knows that a place named East North Yarmouth or Barndoor Hill will never attract the city dweller from his brick walls. But there are names which will. They are the names which suggest trees, dells, and coolness in summer. Every euphonious town name in Jersey was not born in the mind of a real estate promoter or seeker after summer boarders, yet the prominence of a certain class of names in this state is suggestive. Here are a few of them:

Allendale	Hillsdale	Cliffwood	Highwood
Annandale	Huffdale	Englewood	Richwood
Avondale	Oak Dale	Glenwood	Ridgewood
Bloomington	Pleasantdale	Lakewood	Ringwood
Brookdale	Riverdale	Ledgewood	Norwood
Ellisdale	Rosedale	Maplewood	Westwood.
Farmingdale		Wildwood	

Then there are -groves, -hursts, -vales, -parks, -heights, etc., in considerable numbers. There are Pleasant Grove, Pleasantdale, Pleasant Mills, Pleasant Run, Pleasantville and Point Pleasant.

Such names spring up in profusion only in regions where city influence is strong. The ordinary settler, or countryman, does not think of such names. He is much more likely to accept Johnsonsburg, Smith's Corners or East Gainesville. The -woods, -groves, and -dales appeal to urbanites, and the frequency of such names in New Jersey is one of the responses to the urban influences in the state.

PENNSYLVANIA'S -BURGS

The large German element among the settlers of Pennsylvania is reflected in 150 -burgs or -bergs, usually attached to the name of some man, as Harrisburg, Hublersburg, or Steinsburg. This type of name becomes much less common toward the West. There are only about a dozen -burgs in Nebraska, for example. In the newer States, a place is likely to be called Warren, or Harris, rather than Warrensburg or Harrisville. The older States have naturally been more influenced by the European practice, particularly the English, while the West, in place names as in other things, is more typically American.

INFLUENCE OF THE PLANTATION SYSTEM IN VIRGINIA

It has been pointed out that the development of the township with its villages, in New England, is reflected in the great number of place names containing East-, West-, North-, and South-. New England has long been an industrial section. This leads to the collecting of

people into villages and cities. Virginia, on the other hand, has ever been an agricultural State. Farming produces a scattered population and does not promote the growth of towns. Virginia has no townships and few places with East-, West-, etc., prefixed. A farming population must, however, have post-offices. The post-office is likely to be placed at a convenient point, to which people of the surrounding farms are naturally drawn. Such a place might be a shipping point on the river, and a considerable number of post-office names contains the word "wharf," as Hicks Wharf, or Evans Wharf.

About forty post-offices in Virginia end in "Store," as Brown's Store. Fifty end in "Spring," or "Springs," as Cedar Springs, Hot Springs. About 100 places contain the word "Mill" or "Mills" as Gaines Mill or Etna Mills. This same trait comes out also in many such names as Fairfax Station, Fords Depot, Gaines Cross Roads, Goodwin's Ferry, Goshen Bridge, and Graham's Forge. Nowhere else in the United States is this tendency to name places -Store, -Mill, -Wharf, -Depot, etc., so common as in Virginia. With the exception of the "Springs," these names are undoubtedly an outgrowth of the distinctively rural development of the State, necessitating central points to which the people might go to mill, to purchase supplies, to ship produce, etc., and hence giving rise to place names such as those mentioned.

PLACE NAMES IN THE MOUNTAINS OF KENTUCKY AND TENNESSEE

No one can study the place names of the United States without noting how well they reflect the general character of the early settlers. The degree of education of the settlers as a group comes out in the names which they adopt. People of limited education have restricted vocabularies and limited knowledge upon which to draw for names of places. Knowing little of history, geography and literature, they draw upon such resources as they have, and the leanness of their knowledge records itself in the general leanness of the place names which they impose.

As is well known, the poor lands, especially in the mountainous parts of Kentucky and Tennessee are and have been occupied by a backward type of men, the southern mountaineers. The educational poverty of the people is seen in the general character of the place names. Nowhere else does this particular type of names appear in such numbers. I refer to the hundreds of personal names, ordinarily used only as the Christian names of people, but in these States used for place names. The government postoffice map of a single county

(Lawrence County) in eastern Kentucky contains, among others, the following eighteen names:

Adeline	Jean	Madge	Ulysses
Clifford	Louisa	Mazie	Vessie
Charley	Lunda	Osie	Wilbur
Ellen	Marvin	Patrick	Zelda.
Goldie	Mattie		

The following appear among the A's in the list of postoffices in Kentucky (1895):

Abigail	Alex	Ammie	Antemus
Abner	Alger	Anglin	Arthur
Absher	Alonzo	Anna	Augusta
Adair	Amos	Annita	Avena.
Adolphus		Ansel	

Tennessee furnishes scores of such names as these:

A. B. C.	Andy	Charity
Ai	Bessie	Choice
Ark	Bob	Comfort
Aunt	Burt	Compensation
Bee	Callie	Concord
Bud	Daisy	Economy
Did	Effie	Grief
Fly	Eli	Harmony
Fry	Ina	Help
Ged	Jessie	Law
Gum	Kate	Life
Hix	Kittie	Necessity
Ho	Lida	Profit
Ipe	Lois	Reliance
Ken	Lucy	Rest
Key	Mabel	Right
Let	Mae	Solitude
Loo	Maggie	Surprise
Tut	Nancy	Unity
U Bet	Nellie	Vigor
Y. Z.	Tom	Virtue.

Yet, upon examining where such names are common, an interesting principle appears. Professor Shaler has shown the influence of geology upon political conditions in Kentucky during the Civil War. He points out that in the fertile lands of the limestone area of Kentucky—the Blue Grass Region—the people sympathized with the South; while the mountain people were loyal to the Union. The Blue Grass farmers were well-to-do and generally able to hold slaves. The farmers on the poorer lands could not afford slaves, and naturally leaned toward the North in the war. The same influence is very clearly seen in the place names of the State. In the

Blue Grass counties, the people possessed more wealth and more culture. Their broader knowledge led to the selection of more appropriate and dignified place names than were adopted by the poorer and less-educated people who occupied the mountainous parts of the State. There are some thirty counties in the limestone, or Blue Grass, area of Kentucky, yet in these thirty counties there are only about fifteen places that have received personal or Christian names such as Mary, Jennie, Ned, etc., while the twenty mountain countries lying immediately to the east have some eighty-five places so named. Magoffin County, for example, has Cyrus, Edna, Hor-tense, Matthew, Netty, Nehemiah, Ody, Trixie, Pearlie, and Waldo. Morgan County has Nanny, Bonny, Henry, Alice, Mima, Jephtha.

The influence of geology upon the topography, soil, and agricul-ture of a region is well recognized. These in turn have their in-fluence upon economic and social conditions and the place names of the region will reflect the social and economic conditions of the peo-ple who bestowed the names.

CONCLUSION

In conclusion, it is evident that the grouping of a peculiar type of place names in a region is a record unconsciously written by the people who occupied the region and bestowed the names. Not only do the names reveal the nationality of early settlers, as seen in the Dutch names of the Hudson Valley, or the religious affiliations as seen in the frequency of places named for the saints wherever Catho-lic explorers and missionaries went, but they reflect political and industrial conditions as seen in the very high per cent. of place names including East-, West-, North-, South-, etc., in New England, where the township idea prevailed, and village and town life so largely sup-ported rural life. The hundreds of little places named Store, Wharf, Mill, Depot, etc, in Virginia reflect the development of that State as an agricultural region. The -dales, -woods, -groves, -hursts, -heights, etc., so frequent in New Jersey, reflect the suburban de-velopment in that State. And the notable adoption of personal Christian names and other inappropriate names for places in the mountainous parts of Kentucky and Tennessee, with the infrequency of such names in the better parts of these States, reflect the differ-ence in the economic and educational conditions of the early in-habitants of the region.

Thus do the peculiarities of the people of different regions record themselves, not only in customs, laws, and institutions, but also in the names of places.

PALMER LAND

BY

EDWIN SWIFT BALCH

It is most gratifying to American geographers to see the adoption, at last, of the names Palmer Land and Wilkes Land by the Royal Geographical Society of London. In the *Geographical Journal* for March, 1910, p. 338, the name Wilkes Land was used, apparently rather as a matter of course, and without any suggestion that it was an addition to the nomenclature employed up to that time by official British geographers.

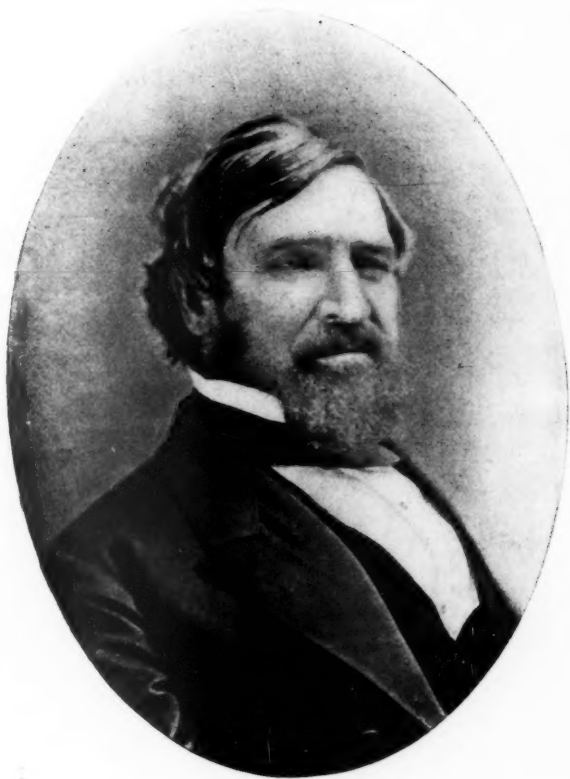
In the *Geographical Journal* for March 1911, however, a much greater step forward was taken. For on the maps illustrating the paper by Dr. Jean B. Charcot, we not only find on the little central one of the South Polar Regions the name Wilkes Land, but on three of the others we find the name Palmer Land. And not only is the name Palmer Land charted on these maps, but the name Palmer Land is in its correct place, on the north shore of the northern mainland of West Antarctica.

It is only justice that this should be so. For the mainland of West Antarctica, as far as the records show, was first sighted by Nathaniel B. Palmer* of Stonington, Conn., and the land was named after him, possibly by the Russian admiral and antarctic circumnavigator Bellingshausen.

Fanning, in his somewhat confused account of the discovery of the mainland of West Antarctica, says that Captain Pendleton reported that from an elevated station on Deception Island, he had discovered mountains in the south. Fanning then goes on to state how the name Palmer Land came deservedly to be given to it. It would seem from the first statement as if the name should be Pendleton Land and not Palmer Land, a point to which Dr. Norden-skjöld called attention. But if this were correct, why was the name Palmer Land adopted by the sealers and why should Fanning say it was deservedly given?

The answer to this is that it was almost surely Nathaniel B. Palmer, and not Pendleton, who first sighted, from Deception Island, land to the south. Mrs. Richard Fanning Loper, of Stonington, Connecticut, the niece of Nathaniel B. Palmer, has both stated and written to the writer that her uncle was an unusually keen sighted

*A short biographical sketch of Nathaniel B. Palmer will be found in the article by the writer: "Stonington Antarctic Explorers." *Bulletin Amer. Geog. Soc.*, Vol. XLI., Aug., 1909.



NATHANIEL B. PALMER.

man, and that she has often heard him tell how he had first sighted land to the south of anything then known, of the excitement he was thrown into, and of the desire it aroused in him to go to explore it.

Confirmation of this fact may be had by looking at the portrait of Nathaniel B. Palmer, which is published with this article. The illustration is made from a photograph of Captain Palmer taken about the year 1868 and presented to the writer by Mrs. Loper. In looking at this picture it is impossible not to notice the eyes. If ever a man had an eagle eye, an eye which could see far and see accurately, that man was Captain Palmer. And this goes far to prove that Palmer was entirely truthful in stating that he was the first to see Palmer Land, and to corroborate Fanning's assertion that the name Palmer Land was deservedly given to the northern mainland of West Antarctica.

GEOGRAPHICAL RECORD

THE AMERICAN GEOGRAPHICAL SOCIETY

THE MARCH MEETING OF THE SOCIETY. A regular meeting of the Society was held at the Engineering Societies' Building, No. 29 West Thirty-ninth St., on Tuesday evening, March 21, 1911. Vice-President Greenough in the Chair.

The following persons recommended by the Council were elected to Fellowship:

William F. Bass,

Mrs. William Bucknell,

Benjamin Chew.

S. R. Klein, M.D.,

Howard Townsend Martin,

Frederick Townsend Martin,

Schuyler Schieffelin,

Frank D. Waterman,

Dr. M. B. Williams.

The Chairman then introduced Prof. Arthur Stanley Riggs who addressed the Society on "Sicily and Southern Italy." A large number of stereopticon views were shown. The Society then adjourned.

THE PRESENTATION OF THE CULLUM GEOGRAPHICAL MEDAL TO PROF. DR. HERMANN WAGNER. The presentation of the Cullum Geographical Medal awarded by the American Geographical Society to Prof. Dr. Hermann Wagner, took place in the salon of the American Embassy, Berlin, March 5, 1911, at 5 P. M. Those present were: Prof. Dr. Hermann Wagner; His Excellency, Geheimrat Prof. Dr. A. Wagner; Geheimrat Prof. Dr. Penck; Geheimrat Dr. Hellmann; Prof. Dr. von Luschan; Ministerialdirektor Dr. Th. Lewald; Imperial German Consul H. Freytag.

Invitations had also been sent to the Prussian Cultus-Minister and to Prof. Dr. Karl von den Steinen, who sent letters of regret at their inability to attend.

The Hon. David J. Hill, Ambassador of the United States to Germany, said that he had received from the Secretary of the American Geographical Society a letter requesting him to arrange for the presentation of the medal to Prof. Wagner, whose work in Geography has been of very high rank and is highly appreciated in the United States. The American Geographical Society had

voted him the Cullum Geographical Medal in recognition of his distinguished services to geographical science.

In presenting the medal Ambassador Hill spoke of the pleasure it gave him to be the medium of transmitting it on behalf of the American Geographical Society, and he was glad that it could be done in the presence of such distinguished gentlemen as those who had done him the honor to come to the Embassy to assist at the presentation.

The Ambassador said further, that in the United States there existed no rank of nobility, and even if Wagner should live all his life in America, his (the Ambassador's) country could never confer the honor of nobility upon him. And yet there were noblemen in America for wherever men pursue knowledge with devotion and for human good, there were noblemen; and therefore America could confer no higher honor upon Prof. Wagner than it did now, in this recognition of his valuable services to science.

In accepting the gift, Prof. Wagner thanked the Ambassador for the trouble he personally had taken in arranging the presentation and expressed appreciation of the form it had taken, being in a sense solemn and yet at the same time unceremonious. He said he was very pleasantly surprised at being awarded the medal. Though he had never had any direct dealings with the American Geographical Society, he had for many years been in relation with Americans both officials and private persons, in connection with his work. And, with regard to all, he would like on this occasion to express his great appreciation of the courtesy that had always been shown him and his colleagues, especially as regards the promptitude and thoroughness with which all inquiries addressed to the Americans were answered by them and the liberality they evinced in supply of publications.

The Professor named a number of American Institutions to whom he felt indebted in this respect. Dr. Day, of the Geological Survey, had said to him for example: "Dr. Wagner, if ever you want anything of the Geological Survey, just send us two words and you shall have it."

Prof. Wagner was especially gratified that just his class of work had been recognized in this flattering way, for it was a class of work in Geography which he believed had not hitherto found recognition in the United States.

The Professor closed his remarks by once more thanking the Ambassador and saying that he felt that such private acts of international courtesy must serve to bring the nations into closer accord.

He then exhibited the medal to the gentlemen who had assisted at the presentation, and the company retired to the dining-room of the Embassy, where a collation was served.

NORTH AMERICA

PRODUCTION OF IRON ORE, PIG IRON AND STEEL IN THE U. S. IN 1909. Statistics of the production of iron ore, pig iron, and steel in the United States in 1909, collected by the U. S. Geological Survey and the Bureau of the Census, have just been published by the Survey as an advance chapter, by Ernest F. Burchard, from "Mineral Resources of the United States, Calendar Year 1909." The total quantity of iron ore produced in 1909 was 51,294,271 long tons, valued at \$110,290,596 at the mines, as compared with 35,983,336 tons, valued at \$81,845,904 in 1908. With the exception of 1907, when the production was 51,720,619 tons, 1909 was the banner year in iron ore production.

Of the iron-producing States Minnesota led as usual, in 1909, with 28,975,-

149 tons, which was more than the total production in the United States in 1900. Michigan came second, producing 11,900,384 tons; Alabama was third, producing 4,321,252 tons; Wisconsin fourth, with 1,067,436 tons; and New York fifth, with 1,015,333 tons. No other State produced as much as a million tons. The production of Cuban iron ore in 1909 was 930,446 long tons, as compared with 819,434 tons in 1908.

The total production of pig iron, including spiegeleisen and ferromanganese, in 1909 was 25,795,471 long tons; and of steel 23,955,021 tons.

GLACIAL ADVANCE IN ALASKA AND EARTHQUAKES. The advance and retreat of glaciers are usually attributed to slight changes in precipitation, or in temperature, or both. It is, therefore, a novel idea to see in earthquake shocks, producing an excess of snow-supply, the cause of glacial advance. In his study of the Yakutat Bay Region, Alaska (U. S. Geol. Survey, Prof. Paper 64, 1909) Prof. Ralph S. Tarr comes to this interesting conclusion. Several of the valley glaciers of the Yakutat Bay Region showed a remarkable advance, "in the nature of a paroxysmal thrust," within ten months preceding June, 1906. Climatic causes fail to give any adequate explanation. The most satisfactory hypothesis is found in a great increase of the snow-supply, due to earthquake shaking in 1899. Great avalanches of snow were, it is believed, then thrown down to the névé, "starting a vigorous wave of advance whose effects have now reached the glaciers." Persons camping near one of the glaciers at the time of the earthquakes reported that they noted the violent shakings and that there were noises like thunder as great avalanches of snow and rock descended the mountain slopes. If this be the true explanation, and the evidence presented seems strongly to favor this hypothesis, then climate was only indirectly responsible for the glacial advances here discussed. R. DEC. WARD.

HISTORY OF THE GRAND CANYON DISTRICT. In Dutton's classical work on the Colorado Canyon district it was inferred that the Colorado River and its tributaries were established before the faults and folds of the plateau region came into existence. At a much later period the displacements came so gradually that the main drainage lines were able to maintain their courses, cutting their channels as fast as uplift occurred across their paths. In other words, the Colorado and its main tributaries were antecedent rivers. Powell had reached the same conclusion in his still earlier work. A few years ago Davis advanced an alternative theory, that the displacements were much older than had previously been supposed and that after they occurred, the region was reduced to a peneplain, over which the Colorado River system extended, the present Canyon being due to the entrenching of the river.

Prof. D. W. Johnson, with a small party, made an expedition in 1906 for the purpose of testing these two rival hypotheses, and in an article (*Proceedings Boston Society of Natural History*, Vol. 34, 1909, pp. 135-161) he gives a detailed statement of his observations and conclusions. There is much painstaking detail in the paper, but the main conclusions of his summer's work are stated in a brief summary in the following words:

"South of the Cañon, in the San Francisco Plateau, displacements are more numerous than has been supposed, although of little importance compared with the great displacements north of the Cañon. The 'crag's' of the Echo Cliff probably owe their peculiar form to erosion guided by strongly marked cross-bedding, and possibly in part also to the influence of a well developed system of joints. The Sevier and Toroweap Faults are independent and do not join

each other to form one great displacement, as has been thought might be the case. The Hurricane Cliffs in the vicinity of the Virgin River are true fault cliffs wholly due to recent faulting at two different periods. In all, three periods of faulting along the same plane have occurred in that region, the first and second periods being separated from each other by a long era of base-levelling, while the second and third periods were separated by a shorter, but none the less distinct, erosion interval. Observations made along other displacements in the Grand Cañon district confirm the theory that the faults of this district are in the main of ancient date."

R. S. TARR.

IMMIGRATION INTO CANADA. The Department of the Interior, Canada, has just printed the "Report on Immigration," (*Annual Report, 1910, Part II*). Of the steerage passengers arriving in the fiscal year 1909-10, 137,442 were for Canada and 36,946 for the United States, bringing the total immigration to 208,794, an increase over the preceding fiscal year of 61,886.

The area of new land placed under wheat in the Spring of 1909 was 20 per cent. in excess of the previous year, with every indication that 1910 would see a similarly increased percentage of wheat acreage, particularly in Saskatchewan and Alberta. The wheat crop in the three prairie provinces in 1909 was 147,000,000 bushels. On March 31, 1909, there were open and available in Manitoba, Saskatchewan and Alberta, 195,731 homesteads. The new areas surveyed increased the number of homesteads available on March 31, 1910, to 204,545, equal to 32,713,200 acres, one-tenth greater in area than the state of Ohio. There is a vast region in the great northland yet to be surveyed and opened for homestead entry.

Much improvement was noticed in the physique and general character of the immigrants to Canada in 1909 and 1910. The volume of immigration from the United States has increased to an amazing extent and these American settlers bring with them a good physique, a long practical knowledge of western agriculture, a generous supply of stock and implements and in most cases a good sum of cash.

The opening of the Grand Trunk Pacific between Winnipeg and Wolf Creek in Northwestern Alberta, of the Goose Lake branch of the Canadian Northern, and similar extensions in Saskatchewan and Alberta of the Canadian Pacific, have greatly facilitated the settlement of the country. Commissioner J. Bruce Walker says that the day is not far distant when, in the prairie provinces, it will be impossible for any farmer to be more than a few hours distant from the nearest railway depot. It is still very difficult to obtain a sufficient number of harvest hands. One of the results of increased settlement is a serious shortage in the supply of horses and of stock generally. The price of farm horses has risen 40 per cent. in two years and of oxen 25 per cent.

THE FUR SEALS OF BERING SEA. The London *Times* of March 17 says that Russia has accepted the invitation from our Government to take part in a new seal fishing conference at Washington, a few months hence. It is understood that the invitation from our Government to the Government of the United Kingdom to take part in this conference will be accepted. The American agents declare that the seals are now only one-fourth as numerous as at the time of the Paris arbitration when the diminution had already gone far. Meanwhile the Canadian sealing fleet has dwindled almost to nothing and it is affirmed that the Japanese are mainly responsible for the further depletion of the seals. As Japan was not a party to the Paris arbitration, the sixty-mile

limit has never applied to the Japanese, and their sealers accordingly ply this trade around both the Russian and American islands right up to the three-mile limit and even some times to the very shore. It is believed that Japan has agreed to take part in the coming conference and there is every reason to hope that an arrangement may be made by which the destruction shall be arrested and the herds gradually restored.

SOUTH AMERICA

THE YALE EXPEDITION TO PERU. Prof. Hiram Bingham of Yale University writes to the *Bulletin*:

"We expect to leave New Haven on June 10 and will be gone until Dec. 18, spending five months in the field doing geographical, archæological and historical exploration. We expect to make a cross section of the Andes through a country that has never been scientifically explored and only mapped in the rudest possible way some fifty years ago. The party will probably consist of a physiographer and geologist, a skilled topographer, an assistant topographer, and possibly a surgeon and naturalist, besides the director.

"There are four problems before us. The first is: How far into the Amazon jungle did the Incas carry their civilization? I am convinced that there are more Inca ruins to be discovered near Choquequirau, and particularly on the north slopes of the glacier-clad peaks which separate Choquequirau from the Urubamba Valley. Dr. Forbes, who led the Harvard expedition into Peru three years ago, went down this valley, and confirms my opinion that the region which we propose to enter is one of the most important unexplored archæological fields in Peru. We shall probably spend about two months and a half in this region, doing everything we can to visit any ruins that are reported, particularly in the Vilcabam valley where the last Inca lived after he escaped from the Spaniards.

"The second is: A reconnaissance along the 73d meridian from the Amazon valley to the Ocean, a distance of perhaps 300 miles. This reconnaissance, taking about a month, will include physiography, geology, archæology, etc. The region is an interesting one historically and in it the great Gen. Sucre campaigned in the weeks preceding the battle of Ayacucho, which has been called "The Yorktown of South America." In it also lies the rich sugar region of Abancay, and the celebrated ruins of Choquequirau, which I visited on my last journey to Peru.

"Third: Mount Coropuna, a volcanic cone with a magnificent ice cap. Few people have ever heard of it, but some believe it to be the highest mountain in South America. Prof. Bandalier is inclined to the belief that it is over 23,000 feet high. If possible we shall climb the mountain. If not we shall content ourselves with determining its altitude instrumentally and making a good map of it. There are several villages near the mountain which offer an interesting field for the study of human geography.

"Fourth: About forty miles northwest of Mount Coropuna is Lake Parinacochas, which is practically unknown and unexplored. It is our plan to take along a folding canoe so as to be able to make a bathymetrical survey of the lake and a rough survey of its shores. We expect also to determine the latitude and longitude of various points.

"In conclusion, it is the object of the expedition to explore a portion of Peru which is not at present known to science. The amount and kind of information which we shall try to gather will be limited only by the number and the

individual ability of the men who compose the expedition, and by the time. I hope that we shall be able to secure the necessary funds to pay the expenses of both a physician and a naturalist, the latter to make collections of flora and fauna for the Peabody Museum."

AFRICA

NAVIGATION ON THE UPPER NIGER. The Upper Niger has about 500 miles of navigation on the three rivers, Niger, Milo, and Tinkisso. The Milo is navigable from Kankan for 130 miles to its confluence with the Niger. About 130 miles of navigation on the Tinkisso connects Dinguiria with Siguiri and the navigable reach of the Upper Niger itself extends from Kurussa to Bamako about 225 miles. The railroad from Bamako to Kulikoro circumvents the rapids in the river, above which there is 1,054 miles of navigation on the Middle Niger from Kulikoro to Ansongo for small boats the year around and for little steamers drawing not over three and one-half feet about six months; from July to January between Kulikoro and Mopti at the confluence of the Bani River; and from August to February between Mopti and Timbuktu; from December to the end of May between Timbuktu and Ansongo. The navigable reach of the Middle Niger is connected with the Senegal River by the railroad Kulikoro-Bamako-Kayes (372 miles). The direct line between the seaport of Dakar and Kayes at the head of navigation on the Senegal, is now being built, work having been begun in 1909 at the two extremities of the route. When this line is completed to Kayes, Dakar will be connected with the navigable Niger by 790 miles of railroad. (Auguste Chevalier, in *Bull. Soc. Languedocienne de Géog.*, Tome 33, Deuxième et Troisième Trimestres, 1910).

THE BENUE COMPLETELY EXPLORED. Capt. Strümpel, in charge of the German interests in Adamaua, Cameroons, has surveyed the last unknown stretch of the Benue River, the largest tributary of the Niger. Flegel discovered the headwaters of the Benue north of Ngaundere in 1882, and in 1893 Passarge extended the survey up the river from Garua to Bubandjika. Strümpel has surveyed the stream between its headwaters and Passarge's farthest. It has taken sixty years to reveal the entire course of this large river.

HANS MEYER RETURNING TO GERMAN EAST AFRICA. Prof. Dr. Hans Meyer of Leipzig, the first explorer to reach the top of Mt. Kilimanjaro, will return this spring to German East Africa to investigate the Virunga volcanic region, north of Lake Kivu. This is the only region among the great lakes of Central Africa where active volcanoes are found. He will also study the German-Belgian Congo boundary regions in the neighborhood of Lakes Tanganika and Nyasa. (*Pet. Mitt.*, 57 Jahrg., März Heft, 1911, p. 137.)

EXPLORING THE LIBYAN WASTE IN AN AIRSHIP. According to *Petermanns Mitteilungen*, (57 Jahrg., März Heft, 1911, p. 137), the Prussian geologist Dr. L. Siegert will soon attempt to cross in an airship the vast unknown region in the Libyan desert between the Egyptian oases in the East and the great caravan route from Tripoli to Lake Chad in the West. Rohlfs in 1874 and 1879 and Nachtigal in 1870-71 crossed parts of this waste, carefully studying the regions along these routes. Dr. Siegert believes that he may cross this region from the Mediterranean to the Nile in about thirty hours and that this journey will be favored by the prevailing winds. It is doubtful however, if he will be able, in an air flight, to add much to what is already known. The prospects of the discovery of unknown oases are small.

TOPOGRAPHIC SURVEYS IN BRITISH EAST AFRICA. The *Annual Report* of the Survey Department of British East Africa, for the year ending March 31, 1910, says that trigonometrical work was extended northwards during the year from Mombasa to the Sabaki and for some distance up that river. The work was very arduous owing to the bush and forest that had to be cleared to permit observing. A beginning was made with triangulation over the Laikipiak Plateau. With the *Report*, are two provisional maps in colors, showing the areas covered by triangulation and by the topographical survey. The work of mapping this large province is making good progress considering the small force of topographers.

DESTRUCTION OF TELEGRAPH LINES BY GIRAFFES. On account of the repeated destruction of the telegraph line in the neighborhood of Sadani, German East Africa, the Government has authorized the killing of these animals in that region. Heretofore it has been illegal to shoot giraffes except within the two-mile limit on either side of telegraph lines. (*Deutsch Ostafrik. Zeit.*, No. 13, 1911.)

ASIA

THE RUSSIAN SCIENTIFIC EXPEDITION TO THE AMUR. The Commission that was sent to the basin of the Amur River by the St. Petersburg Committee on Colonization of the Far East, has completed its labors. The leader of the expedition, Mr. N. L. Gondatti, now Governor General of the Amur Province, studied not only the adaptability of the Amur region for farming enterprises but also investigated the forests and mineral resources and the prospects of fisheries. The best means of connecting the Trans-Baikal and the Amur region with the Government of Jakutsk by good roads is discussed in the report. The southern part of the Jakutsk territory is reported to be well adapted for cattle raising. As the Amur will be very useful as an export and import route it is very important that the bar at its mouth be removed.

AUSTRALIA

THE BANANA IN TROPICAL AUSTRALIA. Melbourne received in January, a consignment of bananas from the Cardwell District in the northern or tropical part of Queensland, which marks an important phase of the development of industry in that state. *United Empire* (March, 1911) says the fruit was grown by white labor, by Mr. P. T. Hogg, who two years ago, began to raise bananas, on Hinchbrook Channel. His plantation comprises thirty acres. The most interesting fact relating to the shipment is that each bunch, instead of containing from twelve to fourteen dozen fruit, carried no less than twenty dozen, and each banana was larger than usual, measuring on an average, nine inches, plump and well formed. The fruit is of finer quality, than that received from the Chinese growers of Fiji. There are about 200 plants to the acre, and the gross returns per acre, amount to \$350.

EUROPE

GREENWICH TIME ADOPTED IN FRANCE. Greenwich time has been adopted throughout France and Algeria. At midnight on Friday, March 10, all public clocks throughout the country were set back by the nine minutes and twenty-one seconds which represent the difference between the longitudes of Greenwich and Paris. Thus Greenwich mean time is now adopted for all practical purposes as the basis of what is known as "standard time" throughout the greater part of the civilized world.

This is no doubt due in the main to the unifying influence of science which sooner or later compels the whole world to adopt common standards of measurements for those things which men find it to their advantage to measure uniformly. But the Observatory of Paris and the meridian of Paris are not things easily dislodged from their established pride of place. It cannot have been without a sentimental pang—altogether legitimate and even laudable in itself—that France has allowed them to yield precedence to the Observatory and the meridian of another nation.—(*London Times, weekly edition, March 17, 1911.*)

SAINT-DIÉ'S CELEBRATION. The little city of Saint-Dié, France, has sometimes been referred to by historians as "the Godmother of America" because there, among the picturesque mountains of Vosges, was printed in 1507, the famous little treatise in Latin entitled "Cosmographiæ Introductio" by Waldseemüller, in which the name "America" appeared for the first time, (*Bulletin, Vol. 34, p. 54, 1902*). The City will celebrate this interesting fact and also inaugurate its new Chamber of Commerce, by an exhibition devoted to archaeology, history, art and the industries of Vosges. The celebration will occur on June 3-5, when Ministers of the French Government and the Ambassador and Consul General of the United States and other officials will be present. The mayor of Saint Dié has invited delegations from various scientific societies of America to be present on this occasion.

POLAR

LATEST ANNOUNCEMENT OF FILCHNER'S PLANS. A note from Berlin on the latest development of the preparations for the Filchner Expedition says that his general object is to push as far south as possible, through Weddell Sea and towards the center of the Antarctic land mass or masses and especially to determine the relations between the eastern and western portions of the land and ascertain if water channels divide it into two or more masses. He expects to visit Coats Land, trace its coast as far south as possible and establish a base station on Coats Land or south of it, as a starting point for the sledge expedition and as the headquarters where scientific observations may be carried on for a year or more. The landing party will number eleven men, of whom seven will have charge of work at the station, while four will form the southern sledge party. If possible the ship will return north to continue its oceanographical work.

The scientific programme will include besides strictly geographical work, investigations in geology, oceanography, biology, meteorology, magnetism, etc. During the journey from Germany, special efforts will be made to add to our knowledge of the Atlantic sill, which is known to extend north and south for a great distance. Soundings will be made to establish the position of this subterranean rise, between 0° and 10° north. Lieut. Filchner has chosen as his scientific assistants, Dr. Barkow of the Royal Prussian Meteorological Institute as meteorologist; Dr. Seelheim, as geographer, Dr. Heim as geologist, Dr. Przybyllok for astronomical and terrestrial magnetic observations, and several others.

The ship which was purchased last Autumn in Norway, is a whaler built in 1905 of fir, oak and pitch pine, strengthened for ice navigation, and cased in greenheart. She is believed to be splendidly adapted for Polar work. Her

commander will be Captain R. Vahsel, who was on the Gauss Expedition, and has had experience in ice work. Among the features of the equipment is an installation for wireless telegraphy, specially constructed motor cars, and both dogs and Manchurian ponies for sledge transport.

The main geographical objects of Filchner's Expedition are thus seen to be to determine the distribution of land and water, establish the coast line of the Antarctic Continent and study the conformation of the ice.

JAPANESE ANTARCTIC EXPEDITION. A Japanese Antarctic expedition has been organized and is supported by public subscription. The leader of the expedition is Lieut. Shirase, an ex-military officer, and the party consists of twenty men, eight of whom are to accompany the leader on his sledge journey. The ship destined for the purpose is a sealer, and the name *Kainan-maru* (Exploring the South) was given to her by Admiral Togo before she left the Bay of Tokio on Nov. 29, 1910. She sailed first to New Zealand, reaching Wellington on Feb. 8, and leaving for the south on Feb. 11, after coaling and taking in provisions. The party will endeavor to find a suitable place along King Edward VII Land, whence they will start on a sledge journey to the Pole. The great, perhaps sole object of the expedition is to reach the Pole, and dogs are to be used in drawing the sledges. The funds available are very limited at present amounting to £10,000. Count Okuma, who is the head of the Association for financing the expedition, is earnestly endeavoring to add to this sum. (*Scott. Geogr. Mag.*, March, 1911, p. 151.)

RUSSIAN EXPEDITION TO NOVAYA ZEMLIA. A Russian expedition was successful last summer in circumnavigating the northern island of Novaya Zemlia in the *Queen Olga*, Capt. Sedov who, as stated in *Petermanns Mitteilungen* for December, had previously carried out surveys on the northern coast of Eastern Siberia. A statement has been made in the daily press, on the authority of Mr. Rusanof (apparently a member of the same expedition), that the open water found off the northern coast of the island proves that the Gulf Stream passes to the north of Novaya Zemlia. That such a statement can have little valid foundation (few if any scientific observations having been made during the rapid voyage round the island) seems sufficiently obvious and it appears that various Russian scientists, including General J. de Shokalsky, have pointed this out in the Russian papers. The experiences of various earlier voyagers would seem to show that the state of things described must be somewhat exceptional. The note in the *Mitteilungen* also mentions that the Governor of Archangel, Mr. J. W. Sosnovski, likewise visited Novaya Zemlia, for the purpose of forming a Russian settlement, and that several settlements of Norwegian sealers were found along the coast during the voyage of the *Queen Olga*. (*Geog. Journ.*, March, 1911, p. 322.)

EDUCATIONAL GEOGRAPHY

GEOGRAPHY IN GERMANY AND IN THE UNITED STATES. Mrs. Martha K. Genthe, an associate editor of the *Bulletin*, who has returned to her old home in Germany has a short paper under the above title in the *Journal of Geography* (April, 1911). Her wide knowledge of geography teaching in both Germany and the United States gives special value to the paper of which the following abridgment is here given:

She considers as special opportunities which Germany offers towards the best possible results in the teaching of geography (1), the existence at every

university of a special department of geography which is second to no other department and in some of the universities second to no university department in the world. Hence, there is a constant and regular supply of teachers of geography for all kinds of schools who are specialists in their line and who work incessantly for the betterment of geographical instruction; (2), the abundant supply of excellent maps and atlases for all kinds of schools. The influence of these conditions is that the map, not the text-book, is made the foundation of the lesson.

The study of geography is subordinate in those higher schools in which the classical languages are considered the only royal road to success. In the Ober-real Schule and the Real Schule however, geography is taught not only as a useful subject but as one which makes for culture. In the elementary schools the conditions are most favorable because the amount of time allotted to geography is the same as that devoted to the other sciences and it extends through the whole course.

Mrs. Genthe regards America as handicapped geographically because there is lack of general recognition of geography as a scientific study. The number of universities in which it is adequately represented is still small, hence, the teaching profession is not so well supplied with geographical specialists who can give weight to the argument in favor of better courses in geography. Many schools are compelled to employ teachers without even any pedagogical training, at whose hands geography fares poorly. Most of the school maps are rather poor works of cartographic art to say nothing of those in which this art is completely absent, so that the text plays a larger part in the lesson and there is constant danger of geography becoming a mere book study.

The cost should not stand in the way of providing better maps and no child should leave school without being able to use the topographic map. None but trained geographers should be employed at the high schools to teach geography, and there should be a three years' course in it for every high school, because the cultural value of geography increases in proportion to the age and maturity of the student. The same even more emphatically must be said of the College. If there is any foundation for the belief that geography is taught better in Germany than in America, it can be explained only through the better quality of the average teacher in Germany.

PHYSICAL GEOGRAPHY

THE MAGNETIC SURVEY YACHT *CARNEGIE*. The *Carnegie* arrived at Cape Town on March 20. Since June last she has traveled about 1,400 miles in the Atlantic Ocean. Dr. Bauer left Vancouver on March 24 to make magnetic observations in the Samoan Islands during the total solar eclipse of April 28. He will meet the *Carnegie* at Colombo, Ceylon.

LARGE CITIES, WIND VELOCITY AND HYGIENE. That air temperatures in large cities differ somewhat from those recorded in the surrounding country has been known for some years, the details having been obtained through the careful investigations of Renou for Paris, of Hellmann and Perlewitz for Berlin, and of others. Within the cities the mean temperatures average from 1° to 2° , more or less, too high. Recently, another effect of the increasing obstruction offered by large cities to the movement of the air has been brought out in the case of Berlin. In that city, in 20 years, the wind velocity has decreased from about 12 miles (19.4 km.) an hour to about 8 miles (12.9 km.) an hour. This

notable reduction in velocity, which is discussed in *Das Wetter*, 1910, No. 10, shows that the ventilation of streets and of houses by the natural movement of the atmosphere is less effective than it used to be in Berlin. The same thing is likely to be true of other growing cities. That this may have consequences of importance from the point of view of public hygiene is clear. The question, "how far can man influence climate?" is an interesting one. Here, certainly, is a case where man is bringing about a noticeable change in an element of climate which is of great importance to the public health. R. DEC. WARD.

THE GEOLOGIC WORK OF ANTS. In the *Bull. of the Geol. Soc. of America* (Vol. 21, 1910, pp. 449-496), Prof. J. C. Branner discusses the importance of ants as geologic agents, particularly in tropical zones, basing his remarks partly on his own observations in Brazil, and partly upon the general literature of the subject. He shows that they are extraordinarily abundant, that they are exceedingly destructive of certain forms of vegetation, and that certain species even attack man. Some species are beneficial as scavengers, but others seem to play the rôle of destructive agents solely. Prof. Branner says: "Save in the cities, they are almost omnipresent. To the housekeeper they are not only never-sleeping pests, but they are bold and defiant robbers or sneak thieves, as circumstances require, and they cannot be ignored. To the planters they are veritable plagues—they destroy the growing crops as completely as if they had been burned over. They do not wipe out a field of grain in a few hours as completely as do the locust swarms of Argentina, and then disappear, but they stay with their work right alongside of the crops, and in time they destroy them no less certainly. Unlike locusts, they do not come and depart, but they stay right in one circumscribed area all their lives. . . Nor can their importance be regarded as whimsical in any sense; indeed, I am convinced that they are social and even national factors that are not to be ignored."

As purely geological agents ants perform work of several kinds. In the first place they penetrate the earth in various directions and to a considerable depth. Branner mentions one case in which he found ant burrows at a depth of 2.1 meters, and refers to a case of a burrow found at a depth of 3.5 meters. These tunnels ramify the ground over great areas, and Branner says, "I have myself seen fumes blown into one opening and issuing from others as much as 300 meters away." The material excavated in the course of the burrowing is brought to the air, and therefore exposed to weathering, and piled in mounds, some of which are 5 meters high, and 16 or 17 meters in diameter. The white ants, or termites, perform work of a kind similar to that of the true ants, though with notable differences which he points out. They do no direct harm to crops and animals as the true ants do, though they interfere with agriculture by the encumbrance of the ground with "big hard rock like nests." They also do damage by destroying "wood used in the construction of fences, houses, bridges, and furniture, and they sometimes burrow into books and papers."

The openings made in the soil by the ants aid the processes of weathering by permitting freer circulation of air and carbon dioxide, by bringing large quantities of soil and sub-soil to the surface, by opening up passageways for circulating water, and by taking organic matter under ground where it aids in rock disintegration. Prof. Branner makes a calculation on which, however, he does not attempt to place complete confidence, comparing the work done over a given surface by ants in Brazil and earthworms in England. According to this calculation the total amount of earth brought to the surface in 100 years

over an area of one hectare (10,000 square meters) is 2,598,500 kilograms in the case of earthworms in England, and 3,226,250 kilograms in the case of Brazilian ants. From his general study of the subject Branner concludes, "Although the data available are defective, we seem to be warranted in concluding that ants and termites are quite as important geological agents in tropical America as are the earthworms of temperate zones. They are also factors of great importance from an agricultural, economic, and social point of view."

R. S. TARR.

OBITUARY

SAMUEL FRANKLIN EMMONS. Dr. Emmons died in Washington on March 28. He was one of the foremost geologists of the United States. Although he had been in ill-health for some time, he continued until recently his duties as geologist of the United States Geological Survey with which he had been connected since 1867. He was born on March 29, 1841, was a graduate of Harvard in 1861, and studied at the School of Mines in Paris, 1862-64 and at Freiburg, 1864-65. He was associated with the geological exploration of the 40th parallel, in 1867-77, was a member of many scientific bodies both in this country and abroad, and wrote many scientific papers and monographs.

J. HAMPDEN ROBB. Mr. Robb, a Vice-President of this Society and for many years a member of its Council died on Jan. 21, 1911, at the age of 65 years. The Council at its meeting on March 16, placed upon record in behalf of the Society its appreciation of his worth and of the great loss which his death has brought to his family, friends and colleagues. "He showed continued care for the welfare of the Society, and by his endeavors and earnest character did much to promote its interests and encourage the interest of others."

PERSONAL

PROF. C. H. HITCHCOCK. The trustees of Dartmouth College have voted that Prof. Charles Henry Hitchcock be made Hall Professor of Geology Emeritus. He retired last year on the Carnegie Foundation Fund. A paper by Prof. Hitchcock "The Volcano Kilauea" appeared in the *Bulletin*, (Vol. 41, pp. 684-91, 1909). In the same year he issued his book, "The Volcanoes of Hawaii."

DR. ARRHENIUS. Dr. Svante Arrhenius, the distinguished physicist of Sweden and Director of the Nobel Institute, Stockholm, is at present in this country. He lectured, on March 25th, before the Washington Academy of Sciences and the Philosophical Society of Washington, on "The Siderial Cultus."

PROF. J. PAUL GOODE. Prof. Goode of The University of Chicago has accepted an invitation from the Department of Education of the Philippine Government to deliver a series of lectures to the Teachers' Assembly at Baguio in May.

DR. GRENFELL. The Council of the Royal Geographical Society of London has awarded to Dr. Wilfred T. Grenfell the Murchison Grant in recognition of his contributions to the accuracy of the charts of the Labrador Coast and to our knowledge of the people and the resources of Labrador.

GEOGRAPHICAL LITERATURE AND MAPS

(INCLUDING ACCESSIONS TO THE LIBRARY)

BOOK REVIEWS AND NOTICES

AMERICA

The Transition in Virginia from Colony to Commonwealth. No. 96 of Studies in History, Economics and Public Law, edited by the Faculty of Political Science of Columbia University. By Charles Ramsdell Lingley, Ph.D. 218 pp. Longmans, Green & Co., New York, 1910.

A study of the American Revolution somewhat strictly within the limits of Virginia. The purpose of the book is chiefly to show the body of experience which the leaders possessed as they approached the year 1776, when independence was declared. A good bibliography is an important feature.

The Highlanders of the South. By Samuel H. Thompson. 86 pp. and illustrations. Eaton & Mains, New York, 1910. 50c.

The book is a plea for the expansion of mission work among the inhabitants of the Southern Appalachians from West Virginia to North Carolina. To interest the reader in his appeal, Mr. Thompson naturally describes the people, their characteristics, manners and customs, tells what they do for a living, and describes their services to the country. On a whole, they were friends of the Union in the Civil War, and they produced such men as Daniel Boone, and David Crockett who were important in the early development of the land.

The book is thus made interesting and serviceable to geographers and anthropologists. We have known comparatively little of these mountaineers, poor, illiterate, brusque as they are, most of them far from railroads and even school houses and churches; and yet they possess many sterling qualities. They may be greatly helped educationally and otherwise; and we know of no other book that so fully describes these people in their present condition and the geographical and other causes that have made them what they are.

The Conservation of Natural Resources in the United States. By Charles Richard Van Hise. xiv and 413 pp., 16 illustrations, maps and figures, addendum and appendices. The Macmillan Co., New York, 1910. \$2.

President Van Hise's book is a sane plea for conservation of natural resources so that they may "remain as nearly undiminished as possible" for succeeding generations. Each topic is considered with reference to present conditions and to suggestions for their improvement. Criticisms are constructive and specific and in all cases the remedy is recognized as being the more potent if upheld by public sentiment as well as by statutes. The aim of the book is to reach the man of affairs; it is not a text book or a source book in the subject of conservation.

Four chapters are given to the topics of mineral resources, water, forests, and land. There is a short concluding chapter on conservation and mankind.

Among the minerals, from the standpoint of conservation, coal and petroleum hold first place since, once used, they are forever gone. Moreover coal is commonly mined so as to make future recovery of the beds now unprofitable practically impossible. Better methods of mining, the utilization of culm [coal refuse and dust], combustion of smoke and increased use of the gas engine are advocated. Attention is called to the enormous waste in the production of petroleum and natural gas. In view of their importance the author recommends strong governmental regulation. In the case of the practically non-competing companies of the Pennsylvania anthracite fields, governmental regulation of prices and production is advocated. The restriction of petroleum exportation is advised.

The waste of petroleum and natural gas is all the more deplorable in view of the short productive period of the fields. Petroleum should be used largely for lubricating and lighting and not for fuel.

The large scale production of iron is in the hands of corporations that handle the ores in a way to conserve them. Moreover the present rate, so far as the United States is concerned, is not likely to hold its increment of increase. Stone and cement are being substituted for iron in much structural work and the author holds that construction work requiring iron must be near its maximum. Furthermore iron can be used repeatedly. Copper is also, on the whole, mined with little waste. Lead and zinc are wastefully mined and extracted and are only to a slight extent available for repeated use since so much is used in covering iron and in paints.

Water is treated mainly with respect to water power and to irrigation. We are using less than one-seventh of the possible power and an augmented use would decrease the consumption of coal. Since streams originate from a wide area and are concentrated in places available for power and irrigation, they are especially subject to control in the interests of the people. Full and prompt development, limited franchise and control of reservoirs are the main factors that should be kept in strict control. In connection with the topics here and also in case of the mineral deposits there are brief, non-technical discussions of origins and processes.

Dr. Van Hise estimates that of the original lumber nearly 75 per cent. is wasted in process of manufacture before reaching its final form, and, in addition, is the loss by forest fires. Reforestation, economy in cutting and manufacture are recommended. Another remedy advocated is a change in taxation. The prevalent method is to tax standing timber at present valuation, and thereby furnishes an incentive to immediate cutting. Van Hise urges that the main tax be levied only when the timber is cut.

Soil conservation is rightly recognized, as most important since the soil is the ultimate basis of the nation's life. Soil deterioration both mechanical and chemical is thoroughly discussed and the remedy suggested. The author goes so far that he would prohibit the exportation of mineral phosphates. Here more than elsewhere the remedy must come through public sentiment and education, since laws regulating tillage are obviously incapable of adequate enforcement.

Dr. Van Hise strikes a happy medium between a technical and popularized presentation. The book is concise, practical, readable. It is a useful contribution to a great movement.

F. V. EMERSON.

Outlines of Geologic History With Especial Reference to North

America. A series of essays involving a discussion of geologic correlation presented before section E of the American Association for the Advancement of Science in Baltimore, December, 1908. Symposium organized by Bailey Willis, compilation edited by Rollin D. Salisbury. xvi and 298 pp., with illustrations, diagrams and maps. The University of Chicago Press, Chicago, 1910. \$1.66.

In this volume are brought together a series of essays which "present in broad outlines a summary of certain phases of existing knowledge of North American geology." The essays have since been published in the *Journal of Geology*.

The first essay is by C. R. Van Hise, on the principles of classification and correlation of the pre-Cambrian rocks. After pointing out the fact that in any such classifications and correlation we lack the guide of fossils and so must depend wholly on physical criteria, the author discusses somewhat fully, ten of the more important of these criteria; and then outlines the general divisions of the pre-Cambrian rocks which they appear to justify. A second essay on the basis of pre-Cambrian correlation by F. D. Adams follows, to which is appended a discussion of both essays by the two authors.

In the next four essays the evolution of the palæozoic faunas and of the physical features of North America in palæozoic time are discussed by Walcott, Grabau, Weller, and Girty. The succession and range of the upper Palæozoic floras are treated by David White, and the faunal relations of the early vertebrates by Williston. The distribution of floras is indicated on maps by black rings and black dots which are curiously labelled "white rings" and "black rings" on one map (p. 149), "white rings" and "solid rings" on another (p. 153). On page 165 Williston gives a chart showing the geological range and distribution of the larger groups of air-breathing vertebrates.

The succession and distribution of the later Mesozoic invertebrate faunas is discussed by Stanton, that of the Mesozoic and Tertiary floras by Knowlton. Dall contributes a short essay on the conditions governing the evolution and distribution of Tertiary faunas which is of interest to geographers as well as geologists, for he deals with the influences exerted by temperature, light, salinity, and other physical conditions upon life, both past and present. The environment of the Tertiary faunas of the Pacific coast is the subject of an essay by Arnold which is accompanied by a table showing tentative correlations between the Tertiary formations of California, Oregon, and Washington. Osborn compares the mammalian life of American Tertiary formations with that of the standard European divisions, and presents a preliminary correlation of the deposits of this epoch on the two sides of the Atlantic. The fourteenth essay, by Salisbury, describes the physiographic changes which marked the close of the Tertiary, the effects of these changes on climate, the consequences which followed from glaciation, and the effects of these physical changes upon life. The essay by Macdougall on "Origination of Self-Generating Matter and the Influence of Aridity upon its Evolutionary Development," while discussing the geological aspect of the question to a limited extent, is not so presented as to emphasize that aspect and seems out of place in this collection. The volume closes with Chamberlin's lucid discussion of "Diastrophism as the Ultimate Basis of Correlation."

Special mention should be made of the paleogeographic maps by Willis. Fifteen of these are so distributed throughout the volume as to serve as illustra-

tions for many of the different essays, each map representing the condition of North America at some period of its geologic history. These maps add greatly to the value of the collection of essays, a collection which every geologist will find of much service.

D. W. JOHNSON.

Fruit Ranching in British Columbia. By J. T. Bealby, M.A. xi and 195 pp., 32 illustrations. Adam and Charles Black, London, 1909. 3s. 6d.

This book is written by an Englishman, evidently a scholar, who in search of health migrated to the Dominion and found what he sought in the out-of-door life of a grower of fruits. In addition, he gained experience, as much contentment as a refugee from home can expect and a moderate compensation for his labors. The scene of the book is laid in the Kootenay lake region near the Selkirk. In general, the story is a detailed account of the daily life of the fruit farmer. No incident is too insignificant or too irrelevant to be neglected but many of these are saved from being commonplace by the ability of the writer to pen an interesting word-picture. Valuable material concerning the climate of the valley, the animal life, the soil and the customs of the inhabitants is interspersed with accounts of successes in raising apples, cherries and berries. From the standpoint of the fruit grower, the book may serve as a prospectus of the region. Prices of land, the amount of capital required, the possibilities of the various kinds of fruit, the condition of the land, the yield per acre, the market and the market prices are carefully considered. The book is well illustrated.

R. M. BROWN.

Studies in the American Race Problem. By Alfred Holt Stone. With an introduction and three papers by Walter F. Wilcox. xxii and 555 pp. and index. Doubleday, Page & Co., New York, 1908. \$2.

This is the picture: The Negro is a great child, easily guided for good or bad, easily contented, not vicious, not prudent or thoughtful of the morrow. Such the black masses. He is a being inferior to his white neighbor in essentially taking care of himself. He cannot compete with the Caucasian at anything. In the cities of the North and East he has yielded his old-time place of newsboy, bootblack, coachman, waiter, barber and mechanic to Europeans who wanted his job, took it from him and did it better than he. The English coachman in New York takes better care of his horses than the black did. At Sunnyside, Arkansas, the Italian is beating him at his best task of cotton raising, working six acres a man to the black man's five, and taking 403 pounds of lint from it to the black man's 233.

This kindly, shiftless being finds in the southern white an adviser and helper. He is allowed to work at trades there from which the unions exclude him everywhere in the north. He knows and accepts his dependence, his inferiority, when agitators let him alone. A southern state isolated in the sea in 1865 with its blacks and whites would have known no race problems. The negro is not fit to direct by his ballot his white neighbor's affairs. He is not competent to manage his own. He does not desire the ballot. He is harder to get out on election day even than the northern voters who are never well represented at the polls with the best efforts of those interested. His voting is desired by unscrupulous persons who would purchase it. The educated class of so-called negroes consists mainly of mulattos. These are not an inferior race. They are not content to be treated as inferiors. Their Saxon blood will not assent. Some of them, like Booker Washington, advise the negroes with great

wisdom, others badly. These men suffer from the color line and labor for "negro" rights which the negro masses do not desire. Nowhere in the world does the white man allow the black or colored man to rule him. The northerner would not if there were enough of them to threaten it. Washington was disfranchised to prevent this at the hands of 100,000 blacks. So was Jamaica. If that be race prejudice all white men have it.

The negro is not increasing as fast as the southern white. There are hardly likely to be 24 millions of him at the end of the century, which seems to mean little more than ten by the thirteenth census. He may perhaps come to exist beside the white man happily and usefully as an inferior, *peasant* class in the southern states where he is to-day best treated and happiest. But all this demands time and—that he be let alone.

So hasty a sketch does injustice to this work of a southern cotton planter and economist. Mr. Stone was born in the south since the Civil War, is a cotton planter in the Yazoo delta of Mississippi, where there are nine blacks to a single white man. He has studied the relations of the races wherever they exist side by side. He knows negro opinion, southern opinion, northern opinion and foreign opinion. If not free from bias he is at least dispassionate and his work is a valuable contribution toward a fair expression of the best southern attitude.

MARK JEFFERSON.

Great Cities in America. Their Problems and their Government. By Delos F. Wilcox, Ph.D. xi and 426 pp. and index. The Macmillan Co., New York, 1910. \$1.25.

Dr. Wilcox's book should be entitled: "The Government of American Great Cities, and Problems Connected Therewith." The cities as such are simply not treated, except in some very incidental way. Of the city of St. Louis, for instance, there is this account: It is "situated in the heart of the Mississippi valley, surrounded by fertile and populous commonwealths," and again—"its half southern location" (p. 309). That is all. Of charter and municipal arrangements and civic reform there are thirty-seven pages. In justice to the author, let me say that he seems to have done excellently what he sought to do—describe government. It is proper to point out in a geographical journal, that a city is highly geographic, and no account of a metropolis that neglects to speak of its relation to the environment can be adequate. For Chicago a page is quoted from Dr. Goode in response to some feeling of this sort (p. 237). This feeling crops out again most of all in New York, which has a vastly important Bridge Department *because of its insular situation*. This again is seen to send the price of real estate skyward, like buildings, in the lower City. The fabulous wealth of the City is stated in paragraph 67, however, without recognition that it is by virtue of its relation to the resources of the whole nation. If Dr. Wilcox has read Brigham and Semple and Emerson on the significance of the city it is not apparent in his writing. He is doubtless aware of it, but should it not be explicit in an account of the city? An interesting geographic suggestion is in the contrast of Philadelphia's happy homes, based on abundant room for the city's expansion, and her content with corruption, which the home comfort contributes to by keeping the citizen away from efforts toward civic reform (p. 252), while New York's crowded tenements have been a sore that has kept reform movements alive. Even here the geographic basis is very much in the background. The port of New York seems hardly considered, unless we are satis-

fied with ferryboats! No word of the growing need of longer piers and the resistance of the War Department. No word of the Jamaica Bay and Montauk Point projects, yet some day, if Dr. Wilcox's account of Manhattan land values is sound, either of these may strike a terrible blow at the city's present wealth.

Washington, the ungeographic, the city by the will of the Nation, is returning to L'Enfant's plan. The existence of a plan is shown to be an advantage to Washington. An odd item is the honeycombing of the city's grandiose blocks with lanes of wretched dwellings of the poor, for whom L'Enfant's plan had no place.

MARK JEFFERSON.

Canada. The Land of Hope. By E. Way Elkington. viii and 239 pp., 32 illustrations, map and index. Adam and Charles Black, London, 1910. \$1.75.

He who would emigrate to Canada should read this book. Mr. Elkington appears to mean by his subtitle that the Canadians see their land not as it is but as they hope it will be. He has evidently looked closely for the truth about Canada. He finds she justifies the hopes. Canada is full of opportunities. There is room for a hundred million more people! The country has no end of resources. At present it is money more than men that it needs. Everywhere he finds things being undertaken with insufficient capital. Excellent wheat land abounds in Manitoba, Alberta and Saskatchewan; in the last province, free in 160 acre homesteads, but not within thirty or forty miles of the railway. It is better to buy land and get it nearer the rails. Do not buy government land nor of the real estate men; buy of the Canadian Pacific, or perhaps some of the other railroads. They want you to prosper and give them business.

Only the poorest farmers ever spend the winters on their farms in the west. The winters are bitter, though the Canadian will not suffer you to say so. For the Canadian he has no good word. The American is the only good farmer in Canada. The Canadians misrepresent everything, and if you ask for proof of their statements you are a knocker! Perhaps, as an Englishman, he reacts a little to the little estimation in which his countrymen are held throughout the colony, from Toronto, where "no Englishman need apply," to the Rocky Mountains. Canadians regard Englishmen as failures in Canada, and the author thinks the undesirables shipped out by steamship companies and charitable societies are likely to fail everywhere. He does not find the prairie towns attractive, in which he seems to the reviewer to show little appreciation of the conditions of frontier life. The Rockies are fine! In the "gloriously overrated Kootenays" no ranchers are making enough from their fruit to keep themselves in any degree of comfort. British Columbia has a climate that suits him and the people too are different from the Canadians. At Victoria, English ways are liked. It is the richest city in Canada but there is no chance to earn money there. If the mines and forests of British Columbia have not done well it is the fault of the people not of the country.

In general Canada has fashioned herself after America and fallen short.

MARK JEFFERSON.

En Haïti. *Planteurs d'autrefois, Nègres d'aujourd'hui.* Par Eugène Aubin. xxxv and 348 pp., 32 photo-engravings and 2 maps in colors. Armand Colin, Paris, 1910. Fr. 5.

The book tells of the experiences, observations, and studies of the author during his travels through the whilom French parts of Haïti. It does not claim

to be a geography of the country, for its chapters are merely a collection of letters previously written to the *Journal des Débats* and reprinted in book form; yet it must not be ranked with the average books on voyage and travel because, in spite of the apparently disconnected subjects, the author observes and writes with a special purpose, namely, to trace in the conditions of the present the influence and remnants of the French part of the island. It is very interesting to discover with him in how many respects French influences are still at work in the life of the people and how much the stamp of French civilization is imprinted to this day, on almost everything in the negro republic. It is not easy for us to imagine nowadays that Santo Domingo was once the most important and prosperous French colony in Central America, where the "habitant" raised indigo, sugar cane, and cotton near the coast, and coffee and cattle on the hills. The most illustrious names of old France are still found on these former "habitations." After the emancipation of the blacks, many of these families left the island previous to the massacre, and those who did not return to the old country emigrated to Cuba, Jamaica, Louisiana, and the United States. In this way the Carolinas, Virginia, Maryland, Delaware, Pennsylvania, New Jersey, and even New York and Massachusetts, received a very valuable influx of new citizens, for whose assistance funds were voted by the Federal, as well as many a State government. Those who made their fortunes there showed their gratitude to the Union in their turn: at Philadelphia, which was their favorite city on the Atlantic coast, the generous foundation of Étienne Girard still perpetuates their memory, Tulane University, too, was named after one of them, and the first scientific description of the island, a result of the combined efforts of refugees from France and Haïti on American soil, was published in Philadelphia by Moreau de St. Méry in 1796 and 1797; among its subscribers were John Adams, Jefferson, Kosciusko, Lafayette, Talleyrand, Volney, Rochambeau.

While thus the best scions of French civilization were grafted on a foreign stem, that which was left of it on the island could not help, in the course of time, to become fossilized, petrified. The almost complete exclusion of the whites from the new republic, which made the situation of the few that were tolerated similar to that of the whites in China or Japan in the early times, was, of course, the greatest obstacle to healthy progress either along the old lines or along new ones. With all their local patriotism, however, the Haïtians could not entirely efface all vestiges of the past. To this day, the old sugar mills, the crumbling aqueducts and irrigation works, the stately portals of what were once residential manors, speak of the times gone by; almost all the place names are of French origin; the life and habits of the people are full of creole reminiscences; their own language, though corrupted to a degree as to be almost unintelligible, is still a dialect of French. The counterpart of this language is their religion, in which Christian and African elements are so blended as to make of it a cult which is neither the one nor the other, and which, under the name of Vaudoux, is clearly distinguished from the Christian cult proper whose preservation is the object of a number of Bretonish missionaries. A striking illustration of the Rip Van Winkle condition of the whole country is told by the author on occasion of his visit at one of the inland chapels where the reader, in conducting the service, read his prayers from a prayer book of the eighteenth century handed down to him by his predecessors, and in that office never failed to ask the blessings of Heaven for "his Majesty the King, her Majesty the Queen, and Monseigneur the Dauphin" in the year 1904 and, the author con-

tinues, "the believers of the place continue imperturbably to pray for these august personages in whom not many people will take an interest now in this nether world."

The book is full of interest for the anthropogeographer, ethnologist, and sociologist.

M. K. GENTHE.

Through the Wildernesses of Brazil. By Horse, Canoe and Float. By William Azel Cook. ix and 487 pp., illustrations and index. American Tract Society, New York, 1909.

More than half of this book is taken up with an account of the author's first voyage as a distributor of bibles in central Brazil. His journey from Goyaz in the south to Maranhão was made by descending four north-flowing rivers, the Araguaya, Tocantins, Parnahyba, with eastward traverses between, and the Itapicurú, off to the west again. On the first two streams the journey was made by canoe, then on a raft of 1,200 small poles and on the Itapicurú by steamer, reached from Therezina on the Parnahyba by sixty-four miles of narrow gauge railroad through the wilderness. Through much missionary argument runs a thread of excellent narrative of the journey. The author was distributing bibles and makes no pretense to scientific knowledge or exploration. It is not always possible, in this or the later journey to distinguish what the author learned by his own powers of observation, which are good, from what he relates at second hand. A number of such references are frankly made. Photographs in this part of the book have no connection with the text. His picture of the degradation of the Brazilians of the interior does not differ from that of Wallace and other observers.

Another journey took the author at a later but unknown date west from Goyaz on horseback to Cuyabá, through the land of the Bororó, among whom he stayed and made collections for the Smithsonian. On this trip the camera added to the vividness of the narrative. From Cuyabá a disastrous trip was made northward into the rubber forests, from which Mr. Cook barely escaped with his life. The account of the rubber gathering is one of the best parts of the book for the geographer. The main theme of the book is missionary work, but there is much interesting reading in a popular way about the interior of Brazil. The style is bright and easy. There is no map. MARK JEFFERSON.

El Arbitraje entre las repúblicas de Bolivia y el Perú y su última negociacion sobre fronteras. Documentos Diplomáticos. Ministerio de Relaciones Exteriores de la República de Bolivia. 21 and CXXIX pp., map and index. Imp. Artística, La Paz, 1909.

Treats at length of the final arbitration of the boundary dispute between Bolivia and Peru according to the treaty of La Paz, Sept. 17, 1909. The accompanying map shows the new boundary line. The *Bulletin* printed an article on the new boundary (Vol. 42, 1910, pp. 435-37), with a map of the boundary.

AFRICA

The Big Game of Africa. By Richard Tjader. XX and 364 pp., map, illustrations and index. D. Appleton & Co., New York, 1910.

One of the best hunting books. It deals with little else than African game animals and other fauna. Its description of their life and habits, advice as to the best way to hunt them, and the many stories of the author's experiences in

the greatest game land of the world will make the book peculiarly valuable to hunters. This information is supplemented by suggestions as to the selection of proper outfit, guns, cameras, curing materials, etc., with much definite data as to where, when and how the hunter may secure the game he wants. As Ki-Swahili is the *lingua franca* of that hunting land, the author gives a Swahili-English vocabulary with exercises that will help the sportsman to get some knowledge of the language which will be of great aid to him both in British and German East Africa. The author's wanderings and experiences, are unusually interesting and his work is one of the best guide-books for sportsmen visiting Africa. He highly praises the missionaries, who, he says, are training the negro along industrial lines and teaching him to better himself in all respects. The general reader, also, will find the book very entertaining.

Documents Scientifiques de la Mission Tilho (1906-09). Ministère des Colonies, République Française. Tome I, ix and 412 pp., Maps, illustrations and diagrams; maps in separate case, Nos. 1-8. Imprimerie Nationale, Paris, 1910.

Frequent references have been made in the *Bulletin* to the work of the Tilho Mission in the region of Lake Chad. This sumptuous volume published by the French Government, is wholly devoted to the scientific results of the studies and surveys. The volume will long be the authoritative source of information on the lake and the physical conditions that have led, in recent years, to the dessication of a large part of its area.

Les Bangala. (État Ind. du Congo). Sociologie Descriptive. Par Cyr. van Overbergh, avec la collaboration de Ed. de Jonghe. XV and 457 pp., map and index. Albert de Wit, Brussels, 1907. Fr. 10.

This book is the first of a series of similar works whose publication began in 1907. The idea originated in the Congress at Mons, Belgium, in 1905, where it was thought that a collection of works relating to the manners and customs of peoples on lower planes of civilization would be helpful in view of the efforts now made to improve the condition of such peoples. The method used in preparing these works is to quote the information collected by the best observers and arrange it according to the various divisions of the topic. Some of this information in the present volume is not of special importance but on the whole the work gives a better idea of all that relates to the Bangala than can be found in any other one volume.

The Bangala, who occupy a large territory along the Middle Congo, gave Stanley his hardest fight when he descended the river and were long known as one of the important cannibal tribes.

The People of Egypt. Painted by Lance Thackeray. With an introduction by Gordon Home. VI and 10 pp., 32 plates in color and 37 illustrations in black and white. The Macmillan Company, New York, 1910. \$1.75.

The book has only ten pages of text in which various types of people are sketched. It is the illustrations, however, that justify this little volume. Mr. Thackeray has artistic ability, a keen sense of fun, and his plates in color and black and white drawings will be greatly appreciated. There is humor in all these drawings as well as keen characterization. Few artists could tell so much with pencil and brush of a great many phases of Egyptian life as Mr. Thackeray has done in this attractive book.

Mysterious Morocco and How to Appreciate It. By H. J. B. Ward, B.A. 268 pp., illustrations, map and index. Simpkin, Marshall, Hamilton, Kent & Co., Ltd., London, 1910. 2s. 6d.

The author gives much information about Morocco in handy form and his material is presented in a way to make the book very useful to travelers who are visiting Morocco in increasing numbers. He includes a sketch of the history of Morocco and an exhaustive bibliography. The work is noteworthy for its trenchant manner of presenting facts, its avoidance of dullness and the amount of information useful to travelers compacted in small compass and at the same time of general interest. Much of the material is derived from his own observations for Mr. Ward enjoyed some special opportunities for acquiring a good acquaintance with some parts of the country.

Uganda for a Holiday. By Sir Frederick Treves, Bart. XI and 233 pp., map, 72 illustrations and index. E. P. Dutton & Co., New York, 1910.

A book that should be read by all travelers who take the route over the British East Africa R.R. to Victoria Nyanza and Uganda. The work is specially valuable from the tourist point of view; and the number of visitors to inner Africa by this route is now steadily increasing. Among the best features are the description of the author's camping trip through the Great Rift Valley, the wonderful natural phenomenon which extends from near Lake Nyasa to the Red Sea. The immense table land was split by two parallel rifts running north and south, so that a block of material thirty to forty miles wide dropped vertically between them to a depth of some 2,000 feet. It was in this depression that Sir Frederick made a journey of some length on foot.

The book also contains one of the first accounts in English of a circumnavigation of Victoria Nyanza. Sir Frederick Treves took the steamer journey along all the coasts, and his description of the German stations is especially novel and interesting. The photo-engravings are excellent.

The author says that though sleeping sickness has made great ravages along the lake coast of Uganda, the tourist is in no danger. The fly which propagates the dread disease, travels only a short distance from water and must have the shelter of trees or low bush throughout his life. But all the ground around the landing place has been very carefully cleared of vegetation so that the *glossina palpalis* is not to be found on any Lake steamer. "The casual visitor therefore runs no more risk of sleeping sickness on the Uganda than he does of the Bubonic plague on the Upper Thames."

ASIA

L'Asia Centrale. Note di viaggio e studi di un diplomatico giapponese. By Nisci Tocugirò. Traduzione di L. Nocentini. Sotto gli auspici della Società Geografica Italiana. XX and 317 pp., map, appendices and index, Unione Tipografico-Editrice Torinese, Turin, 1911. L. 4.50.

The book is specially interesting as a geographical work by an Asiatic on portions of Central Asia which he visited and in part studied. The author was formerly Japanese Minister of Foreign Affairs. His book is introduced by an appreciative note from Signor Cappelli, President of the Italian Geographical Society, and the work has been translated and published under the auspices of that Society. It is not merely a book of travel, for notwithstanding the large

literature produced by many noted explorers and students on Russian and Chinese Turkestan, this work also makes some contributions to our knowledge of the geography and history of these parts of Central Asia. Its distinctive interest is that it often reveals to us the Asiatic point of view. Part I, is given to a systematic geographical account of the countries, peoples and products of these regions. Part II, to the history of Central Asia; Part III, to Afghanistan; and Part IV, to Northwestern Mongolia. The author undertakes so much in one octavo volume that his treatment is necessarily summary, but his facts are judiciously selected and the contents bear the impression of the trained geographer. The map is good and helpful.

Über das Verhältnis der Geschlechter in Indien. Bearbeitet nach amtlichem Material. Von Robert Kirchhoff. Heft IV: Statist. u. Nationalökonom. Abhandl. Herausgegeben von Dr. Georg von Mayr. IV and 118 pp. and map. Ernest Reinhardt, Verlagsbuchhandlung, Munich, 1909.

A study based upon official data on sex conditions in India. The census of 1901 showed that in the British provinces and the native states the males exceeded the females by about 5,000,000 souls in a total population of 294,361,056. In other words to every 1,000 males there were 963 females. The author believes that many of the women were not counted in the census returns partly on account of the seclusion of a great number of them, particularly among the Mohammedans, and also because less care was given to the enumeration of the females. The Indian marriage system is discussed and also the many influences that fix the social position and shape the life history of Indian women. A careful study based upon the most reliable data available.

Dawn in Toda Land. A narrative of missionary effort on the Nilgiri Hills, South India. By C. F. Ling, with a foreword by Amy Wilson-Carmichael. XI and 90 pp., and illustrations. Morgan & Scott, Ltd., London, 1910.

The Todas are a small tribe found only on the Nilgiri Hills and numbering less than 800 souls. They have no traditions as to their origin. "We came from nowhere," they say; "we have always been here." They are a fine race physically, taller and fairer than the people of the plains, neat and orderly and live by grazing large herds of buffalo. The book tells the story of these simple and isolated people and of the successful efforts of missionary teachers in the past fourteen years to improve their condition.

Ceylon. By Alfred Clark. VIII and 88 pp., map and illustrations. In the Series "Peeps at many Lands." The Macmillan Co., New York, 1910. 75c.

The book gives in brief compass clear impressions of the most noteworthy aspects of Ceylon. A great deal of striking information is compacted in 87 pp., for there is no waste language. At the same time the work is very readable and the twelve full-page pictures in colors illustrate effectively the natives and various phases of Ceylon.

The Burman, His Life and Notions. By Shway Yoe. XXXIV, 589 pp. and index. Macmillan & Co., Ltd., London, 1910. \$3.25.

It is rare that any author of the definitive work on any topic of which he is master has enjoyed the opportunities of successive revisions at considerable intervals whereby he has been able to maintain his superiority despite the shift of conditions. That has been the fortune of the author of this intimate study of

the Burman, a classic from its first printing. First published in 1882 it took immediate rank as the one authoritative study of not only the Burman but of the Turanian life and character. As such the present reviewer recalls with gratitude the light which it shed upon the daily life of Mandalay and Rangoon in the land of the yellow robe and the honorific umbrella. After fourteen years the author was able in a second edition to correct errors, not that many such were found by the severest critics, and to add new matter. After a second interval of fourteen years, in which Burma passed from under the bloody and slothful rule of Thibaw into the hands of competent British administration, the author has rewritten his book with an eye carefully directed upon the immediate results of the change of conditions. In all human probability this will be the final edition, for in the passage of the years the hand of the administrator must weary and he must lay his task aside. It is meet, therefore, to disregard the modesty of the title page and for Shway Yoe to read the distinguished name of Sir James George Scott, one of those able men who have passed from the crowded masses of Scotland to become great proconsuls at the verge of British empire. In this last edition the author has yielded his own judgment in the matter of transliteration and has adopted the system formulated by the Royal Geographical Society; this concession makes for uniformity, but it does not avail to clear away the difficulties of the language and cannot compare with the beautiful precision of the scientific alphabet which by simple means has been found so ready of application to other tonal languages. We could wish that Sir James had shown himself equally complaisant in sacrificing his translations of Burman verse into English doggerel, but that is probably too much to ask any one who finds that he has a facility in rhythm and in rhyme. The blemish is but slight in a work where so much is found to transcend all praise. It is not merely the story of the Burman in his religious and in his social and his civil life, so far as life is at all dissociable from religion in a community where the chief end of living is to attain merit whereby one more step is taken toward Ne'ban or Nirvana. In the lapse of years the same witness has been able to present the old Burman as he was before the rule of the Lord of the White Elephant had passed, and the new Burman who is struggling toward adjustment to meet the new conditions.

WILLIAM CHURCHILL.

GENERAL

The Conservation of Water. By John L. Mathews. 289 pages and illustrations. Small, Maynard & Co., Boston, 1910.

This book sustains the standard set in "Re-making the Mississippi." It is an interesting and instructive exposition of the value of the streams of the country. Chapters on Water as a Resource, Floods and Flood Prevention, Storage, Municipal Supply, Water Power, Swamp Drainage, Irrigation and the Conservation of our soil are included, and any one who desires to obtain a presentation of the conditions now existing as well as some of the tendencies can do no better than to read this book. Many of the nation's extravagances and inconsistencies are displayed, as, for instance, the pollution of streams used for a water supply. We have been profligate of our heritage. The tale is a much-repeated one, but we cannot be told too often of our failings, to the end that we may see our errors not only as pertaining to large rivers, like the Mississippi, and to extensive projects, like the Uncompahgre, but also as the personal factor in smaller rivers, swamps, hillsides and wooded tracts of our own immediate neighborhood.

Mr. Mathews's indictment is a severe one; but students of our great river are not agreed that the reservoir system of control can be carried out as extensively as is here recommended and the "mining of white coal" is not altogether an ethical argument, for it excites the same desires which have made this great waste possible. Moreover, we have no conclusive evidence that the reforestation of large areas will increase our rainfall, nor do we believe that without the electricity obtained from the power of the water held in reservoirs by which nitrogen can be added to the soil we are in danger of starvation when the nitrate deposits of the Atacama desert are exhausted.

A number of fine illustrations add much to the value of the volume. Persons interested in the conservation of water will read this book, of course; but it ought also to fall into the hands of the lukewarm and the disinterested readers of conservation problems, for the careful consideration of the material presented in this book must make them active agents in small or large ways in this great national movement.

R. M. BROWN.

Lehrbuch der Geologie. Von Dr. Emanuel Kayser. In zwei Teilen. I. Teil: Allgemeine Geologie. xii and 825 pp., 598 text figures and index. II. Teil: Geologische Formationskunde. x and 741 pp., 90 plates and 150 text figures. Large 8vo. Third Edition. Ferdinand Enke, Stuttgart, 1908 and 1909. M. 18.60.

The general structure of this third edition of Professor Kayser's well-known textbook is the same as that of the two previous editions, but the text has been enlarged and re-written in many places according to the progress of geology along the respective lines, up to 1908. The most important of the chapters thus modified are, in the first volume (Physical and Dynamic Geology). Earthquakes, mountain making, valley terraces, glacial erosion, marine sediments, and others; in Part II (Historical Geology), it is especially the Archaic, the Alpine Triassic, the Upper Cretaceous, Tertiary, and Quaternary. The merits of the book, from the standpoint of the teacher or student, still consist in the exceptionally great number of illustrations, especially of plates representing the leading fossils of which no other similar book possesses a better and more complete selection, and the historical synopsis of the progress of our knowledge about the contents of the respective chapters at the beginning of each. Pedagogical considerations, too, have led to the very strict confinement of the book to problems of German geology, assigning the corresponding phases of foreign countries comparatively little space. This plan has resulted in a much more expeditious treatment of German conditions than is found in the average textbook, and it makes the book an especially welcome guide to German geology for the foreigner who can find in it all that he can be possibly expected to know or to need of the matter, and in a most accessible form. For students who want to know more about foreign conditions, however, references are given at the end of each chapter, which amply supplement the short sketches of the text. As the most recent edition of any of the German standard textbooks this one is probably the first in which the new hypothesis on the formation of the Alps by a recumbent fold process has been written up in textbook size. It is surprising, however, that notwithstanding its being brought up to date, the book should, in the introduction, still cling to the nebular hypothesis as the only existing, or acceptable, hypothesis of its kind, without even mentioning the meteoric or planetesimal hypotheses, although the author declared, as far back as the preface to the first edition, that he intended to at least touch upon doubtful subjects, even though he would not enter into merely theo-

retical discussions. In the discussion of the causes of the glacial period, too, mention at least should have been made of the pendulation theory, while it is strange that in the treatment of the Upper Cretaceous of Saxony, Hettner's work is not mentioned. As an example for submarine river beds, the classical one of the Hudson ought not to be omitted (p. 611).

It is hard to understand that such an eminent scientist as Professor Kayser should have fallen a victim to the anglophobia of a clique of German geographers who have undertaken to reform the spelling of English proper names in accordance with the rules of German orthography to such a degree as continuously to spell the Empire City *Neuyork*. But the situation is not without its humor when one notices, on the other hand, that he as tenaciously clings to the use of the English common noun *bed* unchanged and untranslated where every German whose Sprachgefühl is not yet infected by the patriotic spelling-bacillus would simply say *Bett*, or *Schicht*.

M. K. GENTHE.

The History of the Telephone. By Herbert N. Casson. vii and 315 pp., and illustrations. A. C. McClurg & Co., Chicago, 1910.

The complete story of the telephone is well told in these pages. For some years after Dr. Alexander Graham Bell's great discovery the new-born art of telephoning was neglected and ridiculed. To-day 3,000,000 telephones are scattered abroad in foreign countries and 7,000,000 are operated here, where the new art was born.

NEW MAPS

NORTH AMERICA

UNITED STATES GEOLOGICAL SURVEY MAPS

TOPOGRAPHIC SURVEY SHEETS:

- California:* Wheatland Quadrangle, 1:31,680. Contour interval, 5 ft.
Colorado: Leadville Special Map, 1:9,600. Interval, 25 ft.
Indiana: Clay City Quad., 1:62,500. Interval, 20 ft.
New Mexico: Fort Bayard Special Map, 1:12,000. Interval, 10 ft.
Oklahoma: McComb Quad., 1:62,500. Interval, 20 ft.
Washington: Mt. Vernon Quad., 1:125,000. Interval, 50 ft.; Quincy Quad., 1:62,500. Interval, 25 ft.; Winchester Quad., 1:62,500. Interval, 25 ft.; Red Rock Quad., 1:62,500. Interval, 25 ft.
Washington-Idaho: Pullman Quad., 1:125,000. Interval, 50 ft.
West Virginia: Sutton Special Quad., 1:62,500. Interval, 50 ft.
Wisconsin: Fond du Lac Quad., 1:62,500. Interval, 10 ft.; Neenah Quad., 1:62,500. Interval, 10 ft.

UNITED STATES. Topographic and Geologic Index Map showing Progress in Surveying and Engraving. Topographic Maps and Publishing Geologic Folios to Jan. 1, 1911. 3 sheets. 1:2,500,000 = 39.46 miles to an inch. 3 colors. Washington, 1910. [Unsurveyed areas white. 5 colored symbols used for areas surveyed: (1) maps not yet engraved, (2) maps engraved and published, (3) geologic folios in course of publication, (4) maps engraved, geologic folios published, (5) miscellaneous surveys.]

ALASKA. (a) Map showing relation of Alaska Coal Fields to Transportation Routes. 1 inch = 170 miles; (b) Reconnaissance Map of S. W. Part of Kenai Peninsula. 1 inch = 12 miles. [Shows distribution of gold, copper chronic

iron, and coal mines or prospects.]; (c) Geologic Reconnaissance of the Iliamna and Lake Clark Region. 1:750,000=11.84 miles to an inch; (d) Geologic Sketch Map of Northeastern part of Fairbanks Quad. 1 inch=13 miles; (e) Map of Koyukuk-Chandalar Region. 1:750,000; (f) Map of Nulato-Council Region. 1:1,000,000=15.78 miles to an inch. [Shows distribution of gold placers and coal.] All maps black. Illustrate papers in *Bull.* 442, Washington, 1910.

U. S. COAST AND GEODETIC SURVEY CHARTS

Corrected or new editions of charts: *Alaska*. Bristol Bay: Nushagak Bay and Approaches. No. 9,050. Shelikof Strait and Afognak Island. 8,555. *California*. San Francisco Entrance. 5,532. 1:40,000. *Connecticut*. North Shore of Long Island Sound Fairfield to Georges Rock. 266. 1:10,000. *Massachusetts*. Newburyport Harbor. 331. 1:20,000. *Maine*. St. George River and Muscle Ridge Channel. 312. 1:40,000. *New Jersey*. Raritan River from Raritan Bay to New Brunswick. 375. 1:20,000. *New York*. Huntington Bay Long Island Sound. 368. 1:30,000. Montauk Point to New York and Long Island Sound. 52. *North Carolina*. Albemarle Sound (western part) from the Pasquotank River to the Roanoke and Chowan Rivers. 141. 1:80,000; Pasquotank River. 407. 1:60,000. *Virginia*. Sheet No. 1. James River. Hampton Roads to Point of Shoals. 401a. 1:40,000. *Virginia and North Carolina*. Atlantic Coast from Cape Henry to Cape Lookout. 10. 1:400,000. *Washington*. Willapa Bay. 6,185. 1:40,000. *Philippine Islands*. Inland Waters south of Luzon. Ragay Gulf to Tayabas Bay. 4,218; Samar and Leyte. Calbayog to Tacloban. 4,420. 1:100,000 (with inset of Catbalogan Harbor, 1:35,000). Negros and Cebu. Northern part of Tañon Strait. 4,428. 1:100,000; West Coast of Luzon. Manila Bay to Candon Point. 4,712; Panay, Negros, and Cebu with parts of Bohol and Masbate. 4,718. *Porto Rico-East Coast*. San Juan Passage to Port Humacao and western part of Vieques Island. 917. 1:40,000.

U. S. HYDROGRAPHIC OFFICE CHARTS

Pilot Chart of the North Atlantic Ocean, March, 1911.
Pilot Chart of the North Pacific Ocean, May, 1911.

U. S. WEATHER BUREAU CHARTS

Meteorological Chart of the North Atlantic Ocean. April, 1911.
Meteorological Chart of the North Pacific Ocean. April, 1911.
Meteorological Chart of the Indian Ocean. April, 1911.
Meteorological Chart of the Great Lakes. April, 1911.

AMERICA. Verbreitung von Steinschleuder und Blasrohr in Amerika. 1:40,000,000=631.3 miles to an inch. 4 colors. Illustrates "Die geographische Verbreitung des Blasrohrs in Amerika," by Dr. G. Friederici. *Pet. Mitt.*, 57 Jahrg., Feb.-Heft, Gotha, 1911. [Shows what is now known of the distribution of the sling and the blowpipe among primitive Americans.]

UNITED STATES. Ergebnisse der Volkszählung in den Vereinigten Staaten von Amerika am 15. April 1910. Entworfen von Hugu Wichmann. 4 maps on one sheet. Colors. I. Volksdichte und Grossstädte 1910; II. Zunahme der Gesamtbevölkerung in Proz. 1900-1910; III. Städtische Bevölkerung 1910; IV. Zunahme der ländlichen Bevölkerung 1900-1910. Illustrate "Ergebnisse des 13. Zensus der Vereinigten Staaten von Amerika" (same author). In *Pet. Mitt.* 57 Jahrg., März Heft, 1911, Gotha. [A first-rate graphic representation of some of the striking results of our last census. Map I uses 7 symbols to show density of population. According to the 13th census our most densely peopled states are Rhode Island, Massachusetts and New Jersey, with over 100 population to the square kilometer, the most sparsely peopled being Nevada, Arizona, Montana and Wyoming with less than one inhabitant to the square kilometer. Map II shows that the increase in population has been largest in Oklahoma, Idaho and Washington, over 100 per cent, Iowa alone having declined in population, while the increase in New Hampshire and Vermont was only 5 per cent. or less and in Indiana, Kentucky, Tennessee and Missouri the increase was only 5.1 to 10 per cent; Map III, shows in white, the states of Mississippi, New Mexico, Arizona, Nevada, Idaho, Wyoming, North Dakota and South Dakota,

which contain no cities of more than 25,000 inhabitants. On Map IV, the New England States, New York, Southern Michigan, Iowa, and Missouri are shown in white as states which have declined in the last census period in rural population.]

CANADA. British Columbia. Part of the Selkirk Range Adjacent to Mount Sir Sandford. 1:125,000=1.97 mile to an inch. 3 colors. By Howard Palmer. Illustrates "Explorations About Mount Sir Sandford, B. C." same author. *Geogr. Journ.*, Vol. 37, No. 2, 1911, London.

CANADA. Portions of Alberta and Saskatchewan explored in 1908-9. 1 inch=15 miles. 2 colors. With Report of Frank J. P. Crean, C. E., "New North-west Exploration." Dept. of Interior, Ottawa, 1910. [Text in red shows the nature of soils, distribution of timber, agricultural lands, etc., north of the surveyed parts of Alberta and Saskatchewan to the 57th parallel.]

CENTRAL AMERICA

PANAMA. Map Showing Canal Zone, Location and Auxiliary Structures of the Isthmian Canal. 1:80,000=1.26 mile to an inch. From Surveys of the Isthmian Canal Commission and Panama R.R. Co. Culebra, Canal Zone, 1909. [Black for features existing when map was made and red for features in course of construction or projected, such as canal, dams, locks, etc.]

AFRICA

BRITISH EAST AFRICA. East Africa Protectorate. (a) Map (provisional) showing areas covered by triangulation. 1 inch=52 miles. 3 colors. (b) Map (provisional) showing areas covered by topographical survey. 1 inch=52 miles. Illustrate "*Ann. Rep. Surv. Dept. of British East Africa*," for 1910. Nairobi.

ASIA

INDIA. Chart Illustrating Tibetan Invasion of Mid-India in 647 A. D., by L. A. Waddell. 1 inch=34 miles. Black. Illustrates "Tibetan Invasion of India in 647 A. D. and its Results," same author. *Imperial and Asiatic Quart. Rev.*, Vol. XXXI, No. 61, Woking, England, 1911.

INDIA. Das Verhältnis der Geschlechter in Indien. 1 inch=128 miles. 12 colored symbols. Illustrates "Über das Verhältnis der Geschlechter in Indien." By Dr. Robert Kirchoff. *Statist. u. Nationalökonomische Abhandl.*, Heft IV, Ernst Reinhardt, Munich, 1909. [The colors are used to show the distribution and number of females to every thousand males in India according to the Census of 1909.]

MESOPOTAMIA. Ewald Banse's Reise im nördl. Mesopotamien. 1908. (Mössl-Nisib). 1:500,000=7.89 miles to an inch. 3 colors. Illustrates "Durch den Norden Mesopotamiens (von Mardin über Urfa und Biredschik nach Nisib, April, 1908)." In *Pet. Mitt.*, 57 Jahrg., März Heft, 1911, Gotha. [The region traversed between the Euphrates and the Tigris is, except at its eastern end, north of the projected route of the Bagdad R.R. and has thus far been inadequately mapped. This route map shows all wadis crossing it, many new place names, distribution of geological formations and agriculture with profiles and sketches of land forms.]

PERSIA. Theodor Strauss' Reiserouten im westlichen Persien. Ergänzung zu der Karte im Jahrgang 1905, Tafel 21. 1:600,000=9.46 miles to an inch. 4 colors. Insets: Kirmanschah und Umgebung, 1:300,000; and Sketch Map of Persia, 1:7,500,000. With "Eine Reise im Westlichen Persien," by Vice-Consul Th. Strauss. *Pet. Mitt.*, 57 Jahrg., Feb. Heft. Gotha, 1911.

AUSTRALASIA AND OCEANIA

QUEENSLAND. Geological Map of South East Moreton Coal Measures. 1 inch=1 mile. 5 colors. With *Rep. No. 225*, by E. O. Marks, Geol. Surv., Brisbane, 1910. [Ten colors and signs show geological formations.]

QUEENSLAND. Geological Sketch Map of the Northern Part of the Annan River Tin Field. 1 inch = 80 chains. By Lionel C. Ball. Assist. Govt. Geol. 3 colored symbols for geological formations. Geol. Surv. of Queensland. No. 222, Brisbane, 1910.

QUEENSLAND. Sketch Map of East Central Queensland. Gold Mineral and Coal Fields, between Rockhampton, Gladstone, and the Dawson and Mackenzie Rivers. 1 inch = 4 miles. By W. H. Greenfield. 3 colors. Publ. No. 226, of Geol. Surv., Brisbane, 1910.

SOUTH AUSTRALIA-WESTERN AUSTRALIA. Geological Sketch Map of the Country along Route of Proposed Trans-Continental Railway. 1 inch = 20 miles. By C. G. Gibson. In colors. Illustrates paper, same name and author, published as *Bull.* 37, Geol. Surv. of W. Australia, Perth, 1909. [This survey was extended through the little known "Great Victoria Waste" to ascertain the practicability of linking the railroad systems of Western and South Australia and thus completing the East-West Trans-continental R.R. As reported in the *Bulletin* (Vol. 42, p. 912) the survey established the practicability of the route and the railroad will probably be built at an early date. The map shows the greenstones, limestones, and granite rocks composing the surface geological features, establishes many elevations, and indicates the nature of the desert vegetation. Assistant Geologist Gibson in his report, says that the mineral possibilities lying within a 70 to 80 mile radius of the proposed line are found within the first sixty-nine miles of the surveyed line in Western Australia.]

VICTORIA. 1 inch = 8 miles. 8 sheets. 13 colors. Geologically compiled and colored by Robert Everett, Mining Dept., Melbourne, 1902. [The standard geological map of Victoria. An inset gives table of colors and explanations of the various formations, the characteristic forms of fossils, etc. Cultural as well as geological data are given.]

EUROPE

AUSTRIA-HUNGARY. Schulwandkarte des Herzogtums Steiermark. Bearbeitet von Joh. Georg Rothaug und Hans Trunk. 1:150,000. 6 sheets. G. Freytag & Berndt, Vienna, 1910. Linen, on rollers, K. 30. [One of the superior school wall maps for which Freytag & Berndt are noted. The physical features are very clearly brought out by contrasts of light, shade and colors, the map is not overweighted with political detail, and all information can be clearly seen from the rear benches of a large class-room.]

AUSTRIA-HUNGARY. (a) Orientierungsplan von Wien. 1:15,000 = 0.23 mile to an inch. 60 Heller. [With alphabetical list of streets, etc.]; (b) Verkehrsplan der k.k. Reichshaupt und Residenzstadt Wien. With plan of Floridsdorf. 1:15,000. 8 colors. [Contains very full information as to transportation in Vienna, index to streets, plan of house numbering and a sketch plan of Vienna in 1:150,000.] G. Freytag & Berndt, Vienna, 1911. K. 1.20.

ITALY. Carte d'Italia. 1:200,000 = 3.1 mile to an inch. Sheets. Genova, Folio 24; Spezia, F. 25; Modena, F. 26; Bologna, F. 27; S. Remo-Porto Maurizio, F. 29. Istituto Geografico Militare, Florence, 1910. L. 1.50. [The *Bulletin* commented, (Vol. 41, p. 534) on the excellence of this new map of Italy, based on original survey sheets in 1:25,000 and 1:50,000. The map, when compared with the official map of Italy in 1:100,000 printed in black, strikingly shows the advantage of using colors in cartography. Brown contours with interval 100 meters, show the relief, combined with brown shadings for the high and olive green for the low lands with glaciers and rivers in blue, railroads and roads in black and red, names and other details in black. For general purposes this promises to be the most useful map of Italy.]

ITALY. Schizzo Geotettonico dello Appennino settentrionale e centrale, secondo i rilevamenti geologici di Federico Sacco. 1:1,700,000 = 26.83 miles to an inch. Black. Illustrates "L'Appennino settentrionale e centrale," by Prof. Sacco. *Cosmos*, Serie II, Vol. 13, Rome, 1911.

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ARCTIC. Cotidal Lines for the Arctic Region. Polar Projection. Black. By Rollin A. Harris. Illustrates "Arctic Tides," Coast and Geodetic Surv., Wash., 1911.

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Atlas Universel de Géographie. Ouvrage commencé par Vivien de Saint-Martin et continué par Fr. Schrader. (a) No. 48, Mongolie. 1:5,000,000=78.91 miles to an inch; (b) No. 62, Maroc. 1:2,500,000=39.46 miles to an inch; (c) No. 67, Égypte et Soudan Égyptien. 1:5,000,000. Insets: Alexandrie et ses Environs, 1:250,000 and Le Caire et ses Environs, 1:250,000. Hachette et Cie, Paris, 1911. Each sheet 2 Fr. [Fine specimens of scientific map compilation and engraving with lists of cartographic sources on which the sheets are based.]

Atlas général Vidal-Lablache. 420 cartes et cartons, Index alphabétique de 46,000 noms. Librairie Armand Colin, Paris, 1909. [This popular French Atlas was first issued in 1894. In the present edition all the sheets have been brought up to date and many of the leading maps have been produced on a larger scale. The work is fully worthy of the popularity which it enjoys in France.]

A List of geographical Atlases in the Library of Congress. With bibliographical notes. Compiled under the direction of Philip Lee Phillips, Chief, Division of Maps and Charts. Vol. 1, Atlases. XIII and 1208 pp.; Vol. 2, Author List, Index. pp. 1209-1659. Gov't Printing Office, Washington, 1909.

This work is a revelation of the importance of atlases in literature and research, and of the scope of material now available in atlas form. While much more than a list of geographical atlases to be found in 1909 in the Congressional Library, it perhaps should not be called a bibliography, but in its bibliographical notes it gives a wealth of information about many of the atlases listed.

There are in the library, over 3,400 atlases, ranging from little pocket and school atlases of a few generalized maps to great works containing scores of detailed, accurate, maps bound in several volumes; and from atlases dated in the twelfth century to those of 1909; atlases astronomical, cartographical, commercial, ecclesiastical, geological, historical, ethnographical, physical, and political; business, military, and real estate atlases and plat-books; general atlases, atlases of discovery, of exploration, of boundaries; atlases of countries, states, counties, cities, colonies; of oceans, harbors, rivers, railroads; of crops, forests, and other resources; of religions, diseases, and various vital statistics. There is one relief atlas for the blind.

Not only is there this broad range in subject matter, but in language as well. The ancient classical languages appear, with most of the modern European tongues, beside a generous portion of works in English.

The contents of the two volumes are arranged under the following heads: The World, special and general; the Continents, and under each their countries; under the United States—special, are given twenty-two classes as follows:

—Agricultural, Bankers and Brokers, Boundaries, Canals, Cities, Coal, Coasts, Commercial, Diplomatic, Forestry, Geological, Hieroglyphic, Historical, Lakes, Political, Railroads, Reproductions, Rivers, Roads, Statistical, Wars and Weather; then come the State atlases with nearly every state represented; and under the States, the various county atlases, city atlases, and plat-books. For the state of Ohio 91 atlases are listed, for New Jersey 60, and for New York, 137.

Besides the list of atlases arranged geographically and covering 1,200 pages, there is an author list covering over 100 pages and an elaborate index of 350 pages. Each atlas has a serial number to facilitate cross-reference.

Some of the most interesting atlases are those of reproductions of old maps and charts. Some thirty-five to forty of this nature are listed, among which are Fischer's collection of world maps and nautical charts from originals in the libraries of Milan, Florence and Venice, (in Italian); Jomard's Monuments of Geography, (in French); the great works of Nordenskiöld including his Periplus, (in Swedish and in English translation); and Santarem's Atlas, (in French).

As sources of geographical knowledge this collection of books constitutes almost an inexhaustible storehouse and for comparative studies where physical feature, climate, or natural resources are set over against, industries, crops, population and other statistical matter nothing could be better; with the atlases covering so wide a range of industries, correlations among industries might make splendid studies; and with many maps of the same regions at dates widely scattered a study of the progress of exploration or knowledge, and of the shifting of boundaries, population and industries, could be carried on with important results.

G. D. HUBBARD.

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